Supreme Court, U.S.
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No.

In the

Supreme Court of the United States

BAYSTATE TECHNOLOGIES, INC.,

Petitioner,

v.

HAROLD L. BOWERS (doing business as HLB Technology),

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR WRIT OF CERTIORARI

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QUESTIONS PRESENTED

1. Does the Copyright Act preempt a state law claim for breach of a standard-form "shrinkwrap" license clause prohibiting reverse engineering of computer software and thus protect the public's right to discover and build upon that software's unprotected ideas and processes?

LIST OF PARTIES AND CORPORATE DISCLOSURE STATEMENT

All of the parties to the proceedings are named in the caption.

During the underlying litigation, Petitioner Baystate Technologies, Inc., changed its name to Cadkey Corporation. Cadkey Corporation (formerly known as Baystate Technologies) is not wholly owned by another entity and has no subsidiaries. Kubotec Corporation Inc. of Osaka, Japan, owns 10% or more of the stock in Cadkey Corporation.

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OPINIONS BELOW

Baystate Technologies, Inc., seeks review of a judgment by the Court of Appeals for the Federal Circuit, *Bowers v. Baystate Technologies, Inc.*, 320 F.3d 1317, 65 U.S.P.Q.2.d 1746 (Fed. Cir. 2003). That judgment was published the same day that the Federal Circuit granted a panel rehearing and vacated its earlier opinion reported at 302 F.3d 1334, 64 U.S.P.Q.2d 1065 (Fed. Cir. 2002). *See* rehearing order at 320 F.3d 1316, 65 U.S.P.Q.2d 1746 (Fed. Cir. 2003).

Published decisions of the trial court are reported at 2001 WL 640876 (D. Mass., June 5, 2001); 112 F. Supp. 2d 185 (D. Mass. 2000); 101 F. Supp. 2d 53 (D. Mass. 2000); and 81 F. Supp. 2d 152 (D. Mass. 1999).

JURISDICTION

Baystate seeks review of the Federal Circuit's decision of January 29, 2003 (App. 1a-35a), which came on rehearing of that court's decision of August 20, 2002. App. 36a-61a. The trial court entered its judgment on September 18, 2000. App. 62a-63a. Baystate timely appealed that judgment to the Federal Circuit.

The Federal Circuit had jurisdiction of the appeal, which concerned both patent and copyright claims, under 28 U.S.C. § 1295(a)(1). The trial court's jurisdiction was based on 28 U.S.C. §§ 1338(a) and (b).

Baystate has timely filed this petition within 90 days of the Federal Circuit's judgment of January 29, 2003, as required by Sup. Ct. R. 13. This Court has jurisdiction under 28 U.S.C. § 1254(1).

CONSTITUTIONAL AND STATUTORY PROVISIONS

This petition raises and relies upon the following Constitutional and statutory provisions:

1) The Supremacy Clause of the United States Constitution. U.S. Const., art. VI, cl. 2.

2) The Patent and Copyright Clause of the United States Constitution. U.S. Const., art. I, § 8, cl. 8.

3) The following provisions of the Copyright Act, Title 17 of the United States Code:

a. 17 U.S.C. § 102, entitled "Subject matter of copyright: In general."

b. 17 U.S.C. § 107, entitled "Limitations on exclusive rights: Fair Use."

c. 17 U.S.C. § 117, entitled "Limitations on exclusive rights: Computer programs."

d. 17 U.S.C. § 301, entitled "Preemption with respect to other laws."

The full text of these provisions appears in the appendix. *See* App. 75a-81a.

STATEMENT OF THE CASE

Reverse engineering is "discovery by fair and honest means . . . by starting with the known product and working backwards to divine the process which aided in its development." *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 476 (1974). This Court praises reverse engineering as the epitome of free competition and progress because it "often leads to significant advances in technology." *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 160 (1989).

Now, however, a decision by the Court of Appeals for the Federal Circuit threatens reverse engineering and, with it, innovation and free

competition. The Federal Circuit held, in a 2-1 decision, that the Copyright Act does not preempt a so-called "shrinkwrap" license prohibiting reverse engineering of computer software and thus does not protect the public's right to discover and build upon the software's unprotected ideas and processes. *Bowers v. Baystate Technologies, Inc.*, 320 F.3d 1317, 1323-26 (Fed. Cir. 2003). But as Circuit Judge Dyk notes in his dissent, the majority's decision creates a direct conflict with the Fifth Circuit. *Id.* at 1335. Thus, the decision frustrates the Constitutional and Congressional goal of national uniformity in intellectual property law.

Let stand, this decision will upset the Copyright Act's delicate balance between authorship rights and free competition. Indeed, Circuit Judge Dyk predicts that the "majority's approach permits state law to eviscerate an important federal copyright policy reflected in the fair use defense, and . . . threatens other federal copyright policies as well." *Id.*[1]

I. THE UNDERLYING DISPUTE

Harold L. Bowers, doing business as HLB Technology ("Bowers"), accused Baystate Technologies, Inc. ("Baystate"), of infringing the copyright in Bowers's "Geodraft" software module. Bowers also accused Baystate of "reverse engineering" the copyrighted software in breach of a standard-form "shrinkwrap" license accompanying that software.

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[1] Demonstrating the national impact of this preemption issue, thirty-three law professors and eight organizations joined in filing an *amicus curiae* brief asking the Federal Circuit to rehear the issue, which it did.

A. The Software at Issue

Baystate is an award-winning software development company and sells a CAD (computer aided drafting) software program called "CADKEY." CAD software allows engineers to draft and design a product directly on a computer screen. Baystate also offers a "GD&T" (geometric dimensioning and tolerancing) module as a component of CADKEY or as an extra add-on module to CADKEY known as "Draft-Pak." Baystate's GD&T modules (collectively, "Draft-Pak") allow engineers to insert industry-standard GD&T symbols into engineering drawings made with CADKEY. *See* App. 87a-94a.

Bowers holds a copyright in a competing GD&T module, "Geodraft," that is also an add-on module for CADKEY and also is used to insert GD&T symbols into CADKEY drawings. *See* App. 82a-85a, 94a.

Bowers alleged that Baystate's Draft-Pak user interface infringes the copyright in his Geodraft user interface because the screen displays look substantially similar. In defense, Baystate argued that the features that make the user interfaces appear similar are methods, processes, ideas, and industry standards--*i.e.*, menu command structures and command "buttons" that do not merit copyright protection.[2]

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[2] Specifically, an engineering association, the American National Standards Institute ("ANSI"), dictates the use and appearance of GD&T symbols in engineering drawings. As such, ANSI dictates virtually the entire content of the Geodraft and Draft-Pak user interfaces. App. 84a-85a, 91a-94a, 97a-101a. Also, both products are designed to operate exclusively with Baystate's CADKEY program and to appear as if they are seamlessly part of CADKEY's user interface. App. 82a-84a, 94a, 101a. Moreover, both user interfaces are operated by clicking "button"-like menu options. App. 99a, 106a, 112a-114a. Relying on, *e.g.*, *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807, 815-817 (1st Cir. 1995), *aff'd by a*

B. The Shrinkwrap License

Shrinkwrap licenses (also known as "clickwrap" or "box top" licenses) are common in the software industry. Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 Cal. L. Rev. 1239, 1241 (1995). Such boilerplate licenses take many forms: a license may be printed on the plastic or cellophane that seals a box of software (hence the term "shrinkwrap") or, for example, printed in the instruction manual accompanying the software. *Id.* Whatever the form, the license typically provides that, just by opening the box or by using the software, the user "agrees" to the license terms. *Id.* at 1241-42. These licenses are almost never the product of actual negotiation. *Id.* at 1248-49.

Bowers sent a "demo version" of Geodraft software, unsolicited, to Baystate and to many other prospective software dealers so that they could observe Geodraft's operation. App. 109a. Accompanying the software was the shrinkwrap license in question, printed on a single sheet of paper and stuck in the software packaging. That shrinkwrap license includes the following provision crucial to this case:

> 4. The original PURCHASER may not engage in, nor permit third parties to engage in any of the following: . . . D. Attempting to Un-assemble, de-compile or reverse engineer the Software or Template in any way.

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divided court, 516 U.S. 1167 (1996), Baystate argued that copyright law does not protect such features. The Federal Circuit did not reach this argument.

App. 115a-116a. There is no evidence that the parties ever negotiated this purported license.[3]

C. The Accused Reverse Engineering

Most software companies reverse engineer their competitors' software. *See* Samuelson & Scotchmer, *supra*, at 1607; Andrew Johnson-Laird, *Software Reverse Engineering in the Real World*, 19 U. Dayton L. Rev. 843, 844-845 (1994) ("every computer programmer uses this process at one time or another"). So accepted is this practice that it is done at industry trade shows as a competitive event known as a "shoot-out." App. 107a.[4]

In this case, Baystate's "reverse engineering" consisted, at most, of running Geodraft on a computer to observe its functionality and to learn its unprotected ideas and processes. Baystate never copied nor even "cracked" Geodraft's encrypted source code. *See* App. 85a-86a, 96a, 102a-104a (testimony from both parties' witnesses that the source code was not copied).

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[3] Similar reverse engineering prohibitions are common throughout the software industry. *See, e.g.*, Pamela Samuelson and Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 Yale L.J. 1575, 1626 (2002); Maureen A. O'Rourke, *Drawing the Boundary Between Copyright and Contract: Copyright Preemption of Software License Terms*, 45 Duke L.J. 479, 481-82 and n. 10 (1995).

[4] "Reverse engineering" of software ranges from simply observing the operation of software as it runs on a computer to actually breaking its encrypted source code to review and understand individual lines of programming instructions. *See Sony Computer Entertainment, Inc. v. Connectix Corp.*, 203 F.3d 596, 603-04 (9th Cir.), *cert. denied*, 531 U.S. 871 (2000). For a basic overview of reverse engineering, see generally Andrew Johnson-Laird, *supra*.

Far from slavishly copying Bowers's software, Baystate in fact innovated by introducing to the market a new and improved product. Specifically, as the software world advanced from the old DOS operating system of the 1980's to the Windows® operating system of today, Baystate upgraded its Draft-Pak software to meet demand for the modern systems. Baystate introduced a more modern "Dialog Box" version of Draft-Pak and, ultimately, a Windows® version. App. 90a-96a, 105a. In contrast, there is no evidence that Bowers ever released a Windows® or other modern version of his old Geodraft DOS-based software.

II. THE COURT PROCEEDINGS

On June 7, 2000, after a twelve-day trial in the United States District Court for the District of Masssachusetts, a jury found that the user interface of Baystate's Draft-Pak software infringed the copyright in Bowers's Geodraft software. The jury also found that Baystate breached the reverse engineering prohibition of the Geodraft shrinkwrap license. App. 68a-72a.

The jury based its contract verdict on the same evidence used to support copyright infringement. Indeed, the trial judge instructed the jury that Baystate's reverse engineering violated the shrinkwrap license "only if Baystate's product that resulted from reverse engineering infringes Bowers' copyright because it copies protectable expression." App. 110a.

Baystate appealed the copyright and contract verdicts and resulting judgment, arguing, *inter alia*, that the Copyright Act preempts the contract claim. On August 20, 2002, the Federal Circuit affirmed the contract verdict but declined to consider the merits of the copyright verdict. *Bowers v. Baystate Technologies, Inc.*, 302 F.3d 1334, 1344 (Fed. Cir. 2002). Baystate moved for a rehearing of the federal preemption issue.

The Federal Circuit granted a panel rehearing to reconsider preemption. 320 F.3d 1316; App. 73a-74a.

III THE FEDERAL CIRCUIT'S DECISION

On rehearing, the Federal Circuit upheld the contract claim based on the same evidence supporting copyright infringement–namely, that the competing programs look similar. *Bowers*, 320 F.3d at 1326-27. Yet the court still declined to address the copyright claim, *id.* at 1328, and thus did not consider Baystate's defense that Geodraft's user interface is not entitled to copyright protection. *See* p. 4 and n. 2, *supra*.

In deciding that the Copyright Act does not preempt the contract claim, the Federal Circuit looked to the law of the First Circuit, which governed Bowers's copyright and common law claims.[5] The First Circuit had not passed on this issue, although the Fifth Circuit had decided the exact same issue in *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255 (5th Cir. 1988). Instead of following *Vault*, however, the Federal Circuit followed the Seventh Circuit's decision in *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996), which does not even concern reverse engineering. As argued below, *Vault*, not *ProCD*, settles the preemption issue here.

REASONS FOR GRANTING THIS PETITION

In *Bonito Boats, supra*, this Court granted certiorari to resolve a conflict between appellate courts on whether federal law preempts a state law prohibiting

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[5] Baystate appealed these issues to the Federal Circuit (rather than the First Circuit) because Baystate also appealed a patent infringement judgment. The Federal Circuit thus had jurisdiction under 28 U.S.C. § 1295. That court reversed the patent judgment, which is not at issue now.

certain industrial copying methods. This Court held that federal law preempted the state law because it gave patent-like protection to unpatented articles and thus "conflicted with the balance struck by Congress in the federal patent statute between the encouragement of invention and free competition in unpatented ideas." *Bonito Boats*, 489 U.S. at 144.

Now Baystate asks this Court to resolve a similar conflict of authority, albeit one involving federal copyright law. At stake is the Congressional balance between what is entitled to copyright protection and what is not, between an author's right to protection and the public's right to observe and build upon copyrighted works through reverse engineering. Thus, this Court should grant certiorari for two reasons.

First, the Federal Circuit's decision directly conflicts with a decision by another United States court of appeal (the Fifth Circuit) and with a decision by a state court of last resort (Supreme Court of Indiana). Such conflicts present "compelling reasons" for granting a petition for certiorari. *See* Sup. Ct. R. 10(a).

Second, the Federal Circuit's decision raises "an important question of federal law that has not been, but should be, settled by this Court," Sup. Ct. R 10(c)--namely, whether the Copyright Act preempts a claim for breach of a "shrinkwrap" license clause prohibiting reverse engineering of software.

Reverse engineering has long been regarded a fair use--and thus not an infringement of copyrights--because it promotes innovation and progress. The Federal Circuit's decision, however, will chill innovation and progress in the software industry (and beyond) by prohibiting anyone lawfully possessing a competitor's product from reverse engineering it to discover unprotected elements and functionality.

I. THE SPLIT AMONG APPELLATE COURTS THREATENS NATIONAL UNIFORMITY IN INTELLECTUAL PROPERTY LAW

The Federal Circuit's decision directly conflicts with two other appellate court decisions. Indeed, this preemption issue is "highly contentious" and has created a split throughout the nation. Samuelson & Scotchmer, *supra*, at 1626-27 and n. 229-230.

This conflict should not be tolerated. "One of the fundamental purposes behind the Patent and Copyright clauses of the Constitution [U.S. Const., art. I, § 8, cl. 8] was to promote national uniformity in the realm of intellectual property." *Bonito Boats*, 489 U.S. at 162; *see also Sears, Roebuck & Co. v. Stiffel*, 376 U.S. 225, 231 n.7 (1964). Allowing this conflict to continue frustrates that goal of national uniformity. *Cf. Community for Creative Non-Violence v. Reid*, 490 U.S. 730, 736 (1989) (granting certiorari to mend circuit court split on intrepretation of a Copyright Act provision).

Such national uniformity is achieved through preemption of state law actions seeking to impose copyright-like protection. Congress has expressly stated its intent to preempt such actions:

> On or after January 1, 1978, all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright . . . are governed by this title. . . . Thereafter, no person is entitled to any such right or equivalent right in any such work under the common law or statutes of any State.

17 U.S. C. § 301(a).

The legislative history of Section 301 makes clear that Congress will not tolerate any state cause of action even remotely equivalent to federal law:

> The intention of section 301 is to preempt and abolish any rights under the common law or statutes of a State that are equivalent to copyright and that extend to works coming within the scope of the Federal copyright law. The declaration of this principle in section 301 is intended to be stated in the clearest and most unequivocal language possible, so as to foreclose any conceivable misinterpretation of its unqualified intention that Congress shall act preemptively, and to avoid the development of any vague borderline areas between State and Federal protection.

H.R. Rep. No. 94-1476 at 130 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5746.

The Federal Circuit ignored this Congressional mandate when it ruled that Section 301 does not preempt Bowers's contract claim, even though it was purportedly based on the same conduct giving rise to the copyright claim.

In contrast, the Fifth Circuit held that the Copyright Act preempts a breach of contract claim seeking to enforce a shrinkwrap license prohibiting reverse engineering of software. *Vault*, 847 F.3d at 270. That is exactly the same issue that Baystate presented to the Federal Circuit. Indeed, as Circuit Judge Dyk stated in his dissent, "the majority has rendered a decision in conflict with the only other appeals decision that has addressed the issue--the Fifth Circuit decision in *Vault*."

Bowers, 320 F.3d at 1335. Emphasizing the similarity of the two cases, Circuit Judge Dyk notes that the "Fifth Circuit's decision in *Vault* directly supports preemption of the shrinkwrap limitation" at issue here. *Id.* at 1337.[6]

The Federal Circuit's ruling also conflicts with a decision by the Supreme Court of Indiana. While the Federal Circuit held that the existence of a contractual promise, in and of itself, provides the "extra element" beyond mere copying necessary to avoid preemption (*Bowers*, 320 F.3d at 1324-26), Indiana held that a contractual promise, in and of itself, does not supply the "extra element" necessary to avoid preemption. *Green v. Hendrickson*, 770 N.E.2d 784, 789-90 (Ind. 2002).

Indeed, the Indiana court distinguished *ProCD*, *supra*, on which the Federal Circuit relied, as not standing for the proposition that a contract always supplies the necessary "extra element" to avoid preemption. *Green*, 770 N.E.2d at 789-90. Instead, the Indiana court reasoned correctly that a court must look at what rights the contract is trying to restrict. If those rights are within the scope of copyright, then the contract claim is preempted. *Id.* Thus, as Circuit Judge Dyk would hold, Bowers's shrinkwrap license does not provide the "extra element" necessary to avoid preemption because it "merely concerns *the extent to*

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[6] The majority distinguished *Vault* on the incorrect and irrelevant ground that *Vault* involves a statute affecting the public rather than a private agreement affecting only the parties. But because the *Vault* contract dispute originated in Louisiana–a civil code jurisdiction–the contract action was necessarily authorized by a civil code provision. Vault's underlying action for breach of a shrinkwrap license, otherwise authorized by the civil code, is no different from an action authorized by state common law. Indeed, as Circuit Judge Dyk notes, Congress makes no distinction between statutory and common law actions: "no person is entitled to any such right or equivalent right . . . under the common law or statutes of any State." 17 U.S.C. § 301(a) (emphasis added).

which authors and their licensees can prohibit unauthorized copying by third parties." *Bowers*, 320 F.3d at 1338 (italics in original).[7]

II. THE FEDERAL CIRCUIT'S DECISION UPSETS THE DELICATE BALANCE BETWEEN COPYRIGHTS AND FREE COMPETITION

Reverse engineering is generally regarded as a "fair use" and thus not copyright infringement. Underlying this fair use defense is a delicate balance between innovation and free competition, between an author's rights in his or her original work and the public's need to build upon that work. *See, e.g., Bonito Boats*, 489 U.S. at 152 ("state regulation of intellectual property must yield to the extent that it clashes with the balance struck by Congress in our patent laws"); *Sega Enterprises, Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1527 (9th Cir. 1993) (Copyright Act protects original, expressive elements of a work while leaving its ideas and functional concepts "for others to build upon").

This Court has yet to address whether an author of software may unilaterally tip that balance merely by including with his software a standard-form shrinkwrap license prohibiting reverse engineering. But this question affects the entire software industry and other areas of technological innovation as well. Thus, this

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[7] This result does not mean that all state law contract rights are preempted. The Copyright Act does not preempt, for example, an author's contractual right to be paid for the purchase of his work. *Acorn Structures, Inc. v. Swantz*, 846 F.2d 923, 926 (4th Cir. 1988). Rather, the Copyright Act preempts "claims that, though denominated 'contract,' nonetheless complain directly about the reproduction of expressive materials." 1 Melville Nimmer & David Nimmer, *Nimmer on Copyright*, § 1.01[B][1][a] at 1-22 (2002).

Court should grant certiorari to answer, for the first time, this important question. Sup. Ct. R. 10(c).

A. Reverse Engineering Is a Fair Use of Copyrighted Software

Copyright does not bar all copying. "Allowing competitors to copy will have salutary effects in many instances." *TrafFix Devices, Inc. v. Marketing Displays, Inc.*, 532 U.S. 23, 29 (2001). For example, copying a work's ideas, methods of operation, processes, and industry-dictated elements is not actionable. 17 U.S.C. § 102(b); *Eldred v. Ashcroft*, 123 S. Ct. 769, 787 (2003) ("A reader of an author's writing may make full use of any fact or idea she acquires from her reading"). *Lotus Dev. Corp.*, 49 F.3d at 815-817. Congress has thus decreed that certain copying is a beneficial "fair use" and not an infringement of copyrights. *See* 17 U.S.C. §§ 107 and 117.

This Court has consistently upheld the public's right to reverse engineer competitors' products. *See Bonito Boats*, 489 U.S. at 160-161. Following that lead and the Congressional decree, the United States courts of appeals typically hold that reverse engineering of computer software to understand its "ideas, processes, and methods of operation" is a protected "fair use" under the Copyright Act. *Atari Games Corp. v. Nintendo of America Inc.*, 975 F.2d 832, 842 (Fed. Cir. 1992). *See also Sony Computer*, 203 F.3d at 602-03; *Bateman v. Mnemonics, Inc.*, 79 F.3d 1532, 1540 n.18 (11th Cir. 1996).

B. Reverse Engineering Is Important to Our Nation's Economy

Reverse engineering is important to our national economy. As a result of reverse engineering,

competitors are able to build upon and improve older works. *See Bonito Boats*, 489 U.S. at 160-161; Samuelson & Scotchmer, *supra*, at 1629-30; Johnson-Laird, *supra*, at 843, 846. Prohibiting this federally-protected fair use defeats the goal of the Copyright Act because it "precludes public access to the ideas and functional concepts contained in those programs, and thus confers on the copyright owner a *de facto* monopoly over those [unprotected] ideas and functional concepts." *Sega Enterprises*, 977 F.2d at 1527.

Reverse engineering is particularly important in the software industry. Computer programs "contain many logical, structural, and visual display elements that are dictated by the function to be performed" and are thus not protected by copyright law. *Sony Computer*, 203 F.3d at 603 (citation omitted). Public access to these ideas and functional elements of the software is essential for advancing the aim of the Copyright Act, which is "to stimulate artistic creativity for the general public good." *Id.* Often, however, the only way to discover the unprotected elements of software is through reverse engineering. *Id.* at 602.

Accordingly, the Federal Circuit's decision will cripple the software industry, where reverse engineering and shrinkwrap licenses prohibiting it are prevalent. The decision will also extend to other industries and other areas of innovation beyond copyrighted software.

As Circuit Judge Dyk suggests, the majority's decision is analogous to a decision upholding a state law allowing a copyright owner to "bar fair use of the copyrighted material by placing a black dot on each copy of the work offered for sale." *Bowers*, 320 F.3d at 1336. Under that scenario, nothing would stop, say, radio manufacturers from placing black dots on their radios to prevent curious school children, inventors, and competitors from discovering and building upon unprotected elements in those radios. That result is

undesirable and harmful to this nation's economy. *See, e.g., TrafFix Devices*, 532 U.S. at 29 ("copying is not always discouraged or disfavored by the laws which preserve our competitive economy"); *Inwood Labs. Inc. v. Ives Labs. Inc.*, 456 U.S. 844, 863 (1982) (copying unprotected functional attributes is a "legitimate competitive activity") (White, J., concurring).

C. On Balance, Bowers's Shrinkwrap License Should Yield to the Public Interest

A private agreement barring reverse engineering does not affect only the parties to that agreement. Such an agreement also deprives the public of the benefits reverse engineering contributes to innovation and free competition. Thus, on balance, the private ordering in a shrinkwrap license prohibiting reverse engineering must yield to public interests. *See, e.g.*, Samuelson & Scotchmer, *supra*, at 1629-30 (courts are justified in not enforcing reverse engineering clauses because, "on balance, reverse engineering and interoperability are important because they likely promote development of a wider range of software from a broader array of developers than a market in which platform developers are insulated from reverse engineering"); Lemley, *supra* at 1291 ("federal intellectual property law is sufficiently comprehensive, and the balance it strikes among competing interests sufficiently delicate, that no two parties should be allowed to alter or avoid some aspect of [that law] where the result is to disadvantage [the public]"). *Nimmer on Copyright*, *supra*, § 3.04[B][3][a] at 3-34.10 (enforcing shrinkwrap licenses upsets the delicate balance in copyright law).

A good example of how reverse engineering benefits the public is seen in the *Sony Computer* case. In that case, the alleged infringer, Connectix, reverse

engineered Sony's software in order to make a competing product that not only emulated the function of Sony's product but also improved upon it. Connectix began its product development by copying Sony's software, running it on a computer, and studying its functional elements. *Sony Computer*, 203 F.3d at 601. Even though Sony lost sales to its competitor, the public as a whole benefited from Connectix's development of a new product. *Id.* at 607.

At worst, that is what Baystate did in this case–it observed the functional aspects of Bowers's software by running it on a computer. Baystate then developed a competing product based on, but improving, those functional aspects. Baystate's reverse engineering ultimately contributed to the introduction of a new and improved product–namely, a Windows® version GD&T module that replaced Bowers's outdated DOS version. Thus, Baystate's conduct should be applauded because it epitomizes the balance between innovation and free competition.

III. The Federal Circuit Should Have Preempted the Contract Claim Here

The test for preemption in the First Circuit, which the Federal Circuit was obliged to apply here, is whether the state cause of action is "equivalent in substance" to the copyright claim. *Data General Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1164 (1st Cir. 1994). A state or common law cause of action escapes preemption only if it has an "extra element, beyond mere copying, . . .[and] is qualitatively different from" the copyright claim. *Id.*

Under that standard, Bowers's contract claim is equivalent to his copyright claim. Indeed, the same evidence underlies both claims. The trial judge instructed the jury to find breach of contract only if it

found copying of protected expression. App. 110a. The Federal Circuit affirmed the contract verdict based on evidence of "unusual similarities" between Geodraft and Draft-Pak. *Bowers*, 320 F.3d at 1326-27. Thus, the Federal Circuit should have preempted the contract claim. *See John G. Danielson, Inc. v. Winchester-Conant Properties, Inc.*, 322 F.3d 26, 45 (1st Cir. 2003) ("The behavior on which Danielson based its state-law claim is the same behavior that Danielson alleged gave rise to copyright liability. The state claim is therefore preempted"). [8]

Even if the same evidence does not support both the contract and copyright claims, and even if Baystate (as it has always contended) merely relied on unprotected ideas, functions, and processes of Bowers's software, then the Federal Circuit still should have preempted the contract claim. The Copyright Act preempts state law rights in such unprotected features contained in otherwise copyrighted works because the entire work (unprotected features as well as protected features) falls within the scope of the Copyright Act. *Wrench LLC v. Taco Bell Corp.*, 256 F.3d 446, 455 (6th Cir. 2001), *cert. denied*, 534 U.S. 1114 (2002).

Relying on the much-criticized *ProCD* case, however, the Federal Circuit reasoned that the promise required by a contract claim supplies the "extra element" necessary to move the contract claim beyond mere copying and to escape preemption under the *Data*

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[8] Bowers's contract claim also succumbs to conflict preemption, which is based on the Constitution's Supremacy Clause (U.S. Const., art. VI, cl. 2) and also on the Patent and Copyright Clause (U.S. Const. art. I, § 8, cl. 8). Under First Circuit law, which applies here, Bowers's contract claim bars the fair use of reverse engineering and thus frustrates the Copyright Act. *See, e.g., Palmer v. Liggett Group, Inc.*, 825 F.2d 620, 626 (1st Cir. 1987) (state common law action preempted because it frustrated the scheme and purpose of federal law).

General test. *Bowers*, 320 F.3d at1324-26. But courts and the leading copyright scholar, Professor Nimmer, criticize *ProCD* for its proposition that a mere promise supplies the "extra element." *See Wrench*, 256 F.3d at 457-58; *Green*, 770 N.E.2d at 789-90; *Nimmer on Copyright*, *supra*, § 1.01[B][1][a] and §3.04[B][3][a]), *but see Lipscher v. LRP*, 266 F.3d 1305 (11th Cir. 2001).

Professor Nimmer has warned of the "parade of horribles" that will ensue if *ProCD*'s holding is applied beyond its factual context, stating, "for example, [notwithstanding that] circuits have validated reverse engineering of software, . . . [m]erely by prohibiting that conduct under a shrinkwrap license, the nominally 'fair use' is constricted out of existence." *Nimmer on Copyright*, *supra*, at 3-34.6.

Professor Nimmer explains that "typically," a shrinkwrap license serves as a "subterfuge to control nothing other than the reproduction . . . of works within *the subject matter of copyright.*" *Nimmer supra*, at 1-19. That is certainly the case here. Bowers sought through his contract claim to prevent the same conduct he accused of being copyright infringement–the alleged copying of Geodraft's user interface. Bowers also sought to prevent the fair use of reverse engineering, thus depriving the public from enjoying Baystate's new and improved software.

CONCLUSION

This Court should grant Baystate's petition for certiorari so that it can resolve the conflict between courts of appeal and address, for the first time, an issue of national importance.

Respectfully submitted,

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April 29, 2003

01-1108, 01-1109

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

HAROLD L. BOWERS (doing business as HLB Technology),
Plaintiff-Cross Appellant,

v.

BAYSTATE TECHNOLOGIES, INC.,
Defendant-Appellant.

January 29, 2003, Decided

COUNSEL:
Frederic M. Meeker, Banner & Witcoff, LTD, of Washington, DC, filed a response for plaintiff-cross appellant. With him on the response were Steve S. Chang, Bradley C. Wright, and Charles W. Shifley.

Robert L. Kann, Bromberg & Sunstein LLP, of Boston, Massachusetts, filed a combined petition for panel rehearing and rehearing for defendant-appellant. Of counsel were Judith R. S. Stern and Erik P. Belt.

Mark A. Lemley, Professor of Law, Boalt Hall School of Law, University of California at Berkeley, of Berkeley, California, filed an amici curiae brief.

JUDGES:
Before CLEVENGER, RADER, and DYK, Circuit Judges. Opinion for the court filed by Circuit Judge RADER.

Concurring/dissenting opinion filed by Circuit Judge DYK.

OPINION BY:
RADER

OPINION:

RADER, Circuit Judge.

Following trial in the United States District Court for the District of Massachusetts, the jury returned a verdict for Harold L. Bowers on his patent infringement, copyright infringement, and breach of contract claims, while rejecting Baystate Technologies, Inc.'s claim for patent invalidity. The jury awarded Mr. Bowers separate damages on each of his claims. The district court, however, omitted the copyright damages as duplicative of the contract damages. Because substantial evidence supports the jury's verdict that Baystate breached the contract, this court affirms that verdict. This court holds also that the district court did not abuse its discretion in modifying the damages award. Nevertheless, because no reasonable jury could find that Baystate infringes claim 1 as properly construed, this court reverses the patent infringement verdict.

I.

Harold L. Bowers (Bowers) created a template to improve computer aided design (CAD) software, such as the CADKEY tool of Cadkey, Inc. Mr. Bowers filed a patent application for his template on February 27, 1989. On June 12, 1990, United States Patent No. *4,933,514* ('*514* patent) issued from that application.

Generally, a CAD software program has many commands that the software presents to the user in nested menus many layers deep. The layering often

makes it difficult for a user to find quickly a desired command. To address this problem, the claimed template works with a CAD system as illustrated in Fig. 1 of the '*514* patent. In that figure, the '*514* patent template lies on top of the digitizing tablet **18** of a CAD computer. The user selects data from the template with a pointing device **20**. The template places the many CAD commands in a claimed visual and logical order. Figure 1 shows:

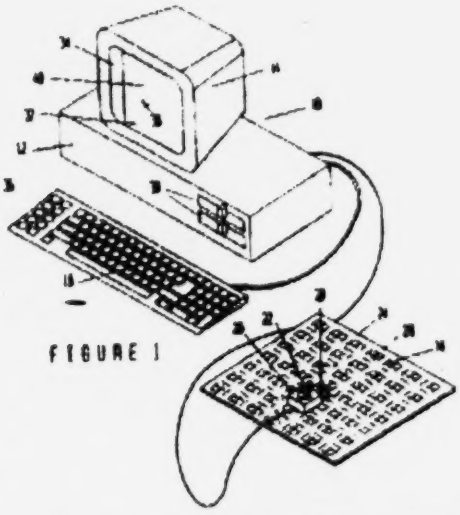


FIGURE 1

Mr. Bowers commercialized the '*514* patent template as Cadjet for use with CADKEY.

On February 1, 1993, Mr. Bowers requested reexamination of the '*514* patent in view of prior art, namely the Keymaster template. Like the '*514* patent template, the Keymaster template provides a unified visual representation of many CAD commands. Like the preferred embodiment of the '*514* patent, the Keymaster template operates with CADKEY software. Following examiner rejections, the Board of Patent Appeals and Interferences ultimately found some amended claims of the '*514* patent patentable. The PTO issued a

reexamination certificate on December 9, 1997. U.S. Patent No. B1 *4,933,514*.

Since the early 1980s, CAD programs have assisted engineers to draft and design on a computer screen. George W. Ford, III, a development engineer and supervisor of quality control at Heinemann Electric, envisioned a way to improve Mr. Bowers' template and CAD software. Specifically, Mr. Ford designed Geodraft, a DOS-based add-on program to operate with CAD. Geodraft allows an engineer to insert technical tolerances for features of the computer-generated design. These tolerances comply with the geometric dimensioning and tolerancing (GD&T) requirements in ANSI Y14.5M, a standard promulgated by the American National Standards Institute (ANSI). Geodraft works in conjunction with the CAD system to ensure that the design complies with ANSI Y14.5M-a task previously error-prone due to the standard's complexity. Geodraft automatically includes symbols specifying the correct GD&T parameters. Mr. Ford obtained a registered copyright, TX 2-939-672, covering Geodraft.

In 1989, Mr. Ford offered Mr. Bowers an exclusive license to his Geodraft software. Mr. Bowers accepted that offer and bundled Geodraft and Cadjet together as the Designer's Toolkit. Mr. Bowers sold the Designer's Toolkit with a shrink-wrap license that, inter alia, prohibited any reverse engineering.

In 1989, Baystate also developed and marketed other tools for CADKEY. One of those tools, Draft-Pak version 1 and 2, featured a template and GD&T software. In 1988 and 1989, Mr. Bowers offered to establish a formal relationship with Baystate, including bundling his template with Draft-Pak. Baystate rejected that offer, however, telling Mr. Bowers that it believed it had "the in-house capability to develop the type of products you have proposed."

In 1990, Mr. Bowers released Designer's Toolkit. By January 1991, Baystate had obtained copies of that product. Three months later, Baystate introduced the substantially revised Draft-Pak version 3, incorporating many of the features of Designer's Toolkit. Although Draft-Pak version 3 operated in the DOS environment, Baystate later upgraded it to operate with Microsoft Windows TM .

Baystate's introduction of Draft-Pak version 3 induced intense price competition between Mr. Bowers and Baystate. To gain market share over Baystate, Mr. Bowers negotiated with Cadkey, Inc., to provide the Designer's Toolkit free with CADKEY. Mr. Bowers planned to recoup his profits by selling software upgrades to the users that he hoped to lure to his products. Following pressure from Baystate, however, Cadkey, Inc., repudiated its distribution agreement with Mr. Bowers. Eventually, Baystate purchased Cadkey, Inc., and eliminated Mr. Bowers from the CADKEY network–effectively preventing him from developing and marketing the Designer's Toolkit for that program.

On May 16, 1991, Baystate sued Mr. Bowers for declaratory judgment that 1) Baystate's products do not infringe the '*514* patent, 2) the '*514* patent is invalid, and 3) the '*514* patent is unenforceable. Mr. Bowers filed counterclaims for copyright infringement, patent infringement, and breach of contract.

Following trial, the jury found for Mr. Bowers and awarded $ 1,948,869 for copyright infringement, $ 3,831,025 for breach of contract, and $ 232,977 for patent infringement. The district court, however, set aside the copyright damages as duplicative of the contract damages and entered judgment for $ 5,270,142 (including pre-judgment interest). Baystate filed timely motions for judgment as a matter of law (JMOL), or for a new trial, on all of Mr. Bowers' claims. Baystate

appeals the district court's denial of its motions for JMOL or a new trial, while Mr. Bowers appeals the district court's denial of copyright damages. This court has jurisdiction under *28 U.S.C. § 1295*(a)(1) (2000).

II.

Baystate raises a number of issues that are not unique to the jurisdiction of this court. On those issues, this court applies the law of the circuit from which the appeal is taken, here the First Circuit. *Glaxo, Inc. v. Novopharm, Ltd., 110 F.3d 1562, 1572, 42 USPQ2d 1257, 1265 (Fed. Cir. 1996); Atari, Inc. v. JS&A Group, Inc., 747 F.2d 1422, 1439-40, 223 USPQ 1074, 1087 (Fed. Cir. 1984)* (en banc).

Under the law of the First Circuit, a court of appeals reviews without deference the district court's denial of JMOL. *Larch v. Mansfield Mun. Elec. Dep't, 272 F.3d 63, 67 (1st Cir. 2001).* The inquiry is whether the evidence, when viewed from the perspective most favorable to the non-movant, would permit a reasonable jury to find in favor of that party on any permissible claim or theory. Id. The First Circuit reviews the district court's denial of a motion for a new trial for manifest abuse of discretion. *Seahorse Marine Supplies, Inc. v. P.R. Sun Oil Co., 295 F.3d 68, 82 (2002).* The First Circuit will reduce or set aside a damage award only if it exceeds "any rational appraisal or estimate of the damages that could be based upon the evidence before the jury." *Segal v. Gilbert Color Sys., Inc., 746 F.2d 78, 81 (1st Cir. 1984)* (quoting *Glazer v. Glazer, 374 F.2d 390, 413 (5th Cir. 1967)).* Nevertheless, in the First Circuit, a district court has authority to resolve whether damages awarded by a jury are duplicative, a determination that a court of appeals reviews for an abuse of discretion. *Garshman Co. v. GE, 176 F.3d 1, 6 (1st Cir. 1999).* Further, the First Circuit treats federal preemption as a question of law and reviews it

without deference. *United States v. R.I. Insurers' Insolvency Fund, 80 F.3d 616, 619 (1st Cir. 1996)* ("[A] federal preemption ruling presents a pure question of law subject to plenary review.").

Claim construction is a question of law that this court reviews without deference. *Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1173-74 (Fed. Cir. 1998)* (en banc). Infringement, whether literal or under the doctrine of equivalents, is a question of fact. *Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353, 48 USPQ2d 1674, 1676 (Fed. Cir. 1998); Optical Disc Corp. v. Del Mar Avionics, 208 F.3d 1324, 1333-34, 54 USPQ2d 1289, 1294-95 (Fed. Cir. 2000).* Obviousness is a question of law, *Graham v. John Deere Co., 383 U.S. 1, 17, 15 L. Ed. 2d 545, 86 S. Ct. 684 (1966),* premised on underlying factual determinations, *Dennison Mfg. v. Panduit Corp., 475 U.S. 809, 810-11, 89 L. Ed. 2d 817, 106 S. Ct. 1578 (1986).* Anticipation is a question of fact. *Atlas Powder Co. v. Ireco, Inc., 190 F.3d 1342, 1346 51 USPQ2d 1943, 1945 (Fed. Cir. 1999).* Therefore, a district court properly may deny JMOL on these factual issues where substantial evidence supports the jury verdict. Fed. R. Civ. P. 50(a)(1); *Sheils Title Co., v. Commonwealth Land Title Ins. Co., 184 F.3d 10, 19 (1st Cir. 1999).*

A.

Baystate contends that the Copyright Act preempts the prohibition of reverse engineering embodied in Mr. Bowers' shrink-wrap license agreements. Swayed by this argument, the district court considered Mr. Bowers' contract and copyright claims coextensive. The district court instructed the jury that "reverse engineering violates the license agreement only if Baystate's product that resulted from reverse engineering infringes Bowers' copyright because it copies protectable expression." Mr. Bowers lodged a timely objection to this instruction.

This court holds that, under First Circuit law, the Copyright Act does not preempt or narrow the scope of Mr. Bowers' contract claim.

Courts respect freedom of contract and do not lightly set aside freely-entered agreements. *Beacon Hill Civic Ass'n v. Ristorante Toscano, 422 Mass. 318, 662 N.E.2d 1015, 1017 (Mass. 1996).* Nevertheless, at times, federal regulation may preempt private contract. Cf. *Nebbia v. New York, 291 U.S. 502, 523, 78 L. Ed. 940, 54 S. Ct. 505 (1934)* ("Equally fundamental with the private right is [the right] of the public to regulate [the private right] in the common interest."). The Copyright Act provides that "all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright . . . are governed exclusively by this title." *17 U.S.C. § 301*(a) (2000). The First Circuit does not interpret this language to require preemption as long as "a state cause of action requires an extra element, beyond mere copying, preparation of derivative works, performance, distribution or display." *Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1164, 32 USPQ2d 1385, 1397 (1st Cir. 1994)* (quoting *Gates Rubber Co. v. Bando Chem. Indus., 9 F.3d 823, 847, 28 USPQ2d 1503, 1520 (10th Cir. 1993));* see also *Computer Assocs. Int'l v. Altai, Inc., 982 F.2d 693, 716 (2d Cir. 1992)* ("But if an 'extra element' is 'required instead of or in addition to the acts of reproduction, performance, distribution or display, in order to constitute a state-created cause of action, then the right does not lie "within the general scope of copyright," and there is no preemption.'") (quoting 1 Nimmer on Copyright § 1.01[B] at 1-15). Nevertheless, "not every 'extra element' of a state law claim will establish a qualitative variance between the rights protected by federal copyright law and those protected by state law." Id.

In Data General, Data General alleged that Grumman misappropriated its trade secret software. *36 F.3d at 1155.* Grumman obtained that software from Data General's customers and former employees who were bound by confidentiality agreements to refrain from disclosing the software. *Id. at 1154-55.* In defense, Grumman argued that the Copyright Act preempted Data General's trade secret claim. *Id. at 1158, 1165.* The First Circuit held that the Copyright Act did not preempt the state law trade secret claim. *Id. at 1165.* Beyond mere copying, that state law claim required proof of a trade secret and breach of a duty of confidentiality. Id. These additional elements of proof, according to the First Circuit, made the trade secret claim qualitatively different from a copyright claim. Id. In contrast, the First Circuit noted that claims might be preempted whose extra elements are illusory, being "mere labels attached to the same odious business conduct." *Id. at 1165* (quoting *Mayer v. Josiah Wedgwood & Sons, Ltd., 601 F. Supp. 1523, 1535, 225 USPQ 776, 784 (S.D.N.Y. 1985)).* For example, the First Circuit observed that "a state law misappropriation claim will not escape preemption . . . simply because a plaintiff must prove that copying was not only unauthorized but also commercially immoral." Id.

The First Circuit has not addressed expressly whether the Copyright Act preempts a state law contract claim that restrains copying. This court perceives, however, that Data General's rationale would lead to a judgment that the Copyright Act does not preempt the state contract action in this case. Indeed, most courts to examine this issue have found that the Copyright Act does not preempt contractual constraints on copyrighted articles. See, e.g., *ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 39 USPQ2d 1161 (7th Cir. 1996)* (holding that a shrink-wrap license was not preempted by federal copyright law); *Wrench LLC v.*

Taco Bell Corp., 256 F.3d 446, 457, 59 USPQ2d 1434, 1441-42 (6th Cir. 2001) (holding a state law contract claim not preempted by federal copyright law); *Nat'l Car Rental Sys., Inc. v. Computer Assocs. Int'l, Inc., 991 F.2d 426, 433, 26 USPQ2d 1370, 1376 (8th Cir. 1993); Taquino v. Teledyne Monarch Rubber, 893 F.2d 1488, 1501 (5th Cir. 1990); Acorn Structures v. Swantz, 846 F.2d 923, 926, 6 USPQ2d 1810, 1812 (4th Cir. 1988);* but see *Lipscher v. LRP Publs., Inc., 266 F.3d 1305, 1312, 60 USPQ2d 1468, 1473 (11th Cir. 2001).*

In ProCD, for example, the court found that the mutual assent and consideration required by a contract claim render that claim qualitatively different from copyright infringement. *86 F.3d at 1454.* Consistent with Data General's reliance on a contract element, the court in ProCD reasoned: "A copyright is a right against the world. Contracts, by contrast, generally affect only their parties; strangers may do as they please, so contracts do not create 'exclusive rights.'" Id. Indeed, the Supreme Court recently noted "it goes without saying that a contract cannot bind a nonparty." *EEOC v. Waffle House, Inc., 534 U.S. 279, 122 S. Ct. 754, 764, 151 L. Ed. 2d 755 (2002).* This court believes that the First Circuit would follow the reasoning of ProCD and the majority of other courts to consider this issue. This court, therefore, holds that the Copyright Act does not preempt Mr. Bowers' contract claims.

In making this determination, this court has left untouched the conclusions reached in Atari Games v. Nintendo regarding reverse engineering as a statutory fair use exception to copyright infringement. *Atari Games Corp. v. Nintendo of America, Inc., 975 F.2d 832, 24 U.S.P.Q.2D (BNA) 1015 (Fed. Cir. 1992).* In Atari, this court stated that, with respect to *17 U.S.C. § 107* (fair use section of the Copyright Act), "the

legislative history of section 107 suggests that courts should adapt the fair use exception to accommodate new technological innovations." *Atari, 975 F.2d at 843.* This court noted "[a] prohibition on all copying whatsoever would stifle the free flow of ideas without serving any legitimate interest of the copyright holder." Id. Therefore, this court held "reverse engineering object code to discern the unprotectable ideas in a computer program is a fair use." Id. Application of the First Circuit's view distinguishing a state law contract claim having additional elements of proof from a copyright claim does not alter the findings of Atari. Likewise, this claim distinction does not conflict with the expressly defined circumstances in which reverse engineering is not copyright infringement under *17 U.S.C. § 1201*(f) (section of the Digital Millennium Copyright Act) and *17 U.S.C. § 906* (section directed to mask works).

Moreover, while the Fifth Circuit has held a state law prohibiting all copying of a computer program is preempted by the federal Copyright Act, *Vault Corp. v. Quaid Software, Ltd., 847 F.2d 255 (5th Cir. 1988)*, no evidence suggests the First Circuit would extend this concept to include private contractual agreements supported by mutual assent and consideration. The First Circuit recognizes contractual waiver of affirmative defenses and statutory rights. See *United States v. Spector, 55 F.3d 22, 24-5 (1st Cir. 1995)* (holding that a contractual waiver of the statute of limitations defense constitutes an "effective waiver of defendant's rights under the statute of limitations" if the agreement were properly executed, and the "waiver is made knowingly and voluntarily."); *Tompkins v. United Healthcare of New England, 203 F.3d 90, 97 (1st Cir. 2000)* (stating that "in some circumstances contractual waiver of statutory rights is permissible," citing *Canal Elec. Co. v. Westinghouse Elec. Corp., 406 Mass. 369, 548 N.E.2d 182, 187 (Mass. 1990)* ("a contractual waiver of

statutory rights is permissible when the statute's purpose is the 'protection of the property rights of individual parties... rather than ... the protection of the general public.'")). Thus, case law indicates the First Circuit would find that private parties are free to contractually forego the limited ability to reverse engineer a software product under the exemptions of the Copyright Act. Of course, a party bound by such a contract may elect to efficiently breach the agreement in order to ascertain ideas in a computer program unprotected by copyright law. Under such circumstances, the breaching party must weigh the benefits of breach against the arguably de minimus damages arising from merely discerning non-protected code.

This court now considers the scope of Mr. Bowers' contract protection. Without objection to the choice of law, the district court applied Massachusetts contract law. Accordingly, contract terms receive "the sense and meaning of the words which the parties have used; and if clear and free from ambiguity the words are to be taken and understood in their natural, usual and ordinary sense." *Farber v. Mutual Life Ins. Co., 250 Mass. 250, 253, 145 N.E. 535 (Mass. 1924);* see also *Kelly v. Marx, 428 Mass. 877, 881, 705 N.E.2d 1114 (Mass. 1999)* ("The proper course is to enforce contracts according to their plain meaning and not to undertake to be wiser than the parties.") (quoting *Guerin v. Stacy, 175 Mass. 595, 597, 56 N.E. 892 (1900)* (Holmes, C.J.)).

In this case, the contract unambiguously prohibits "reverse engineering." That term means ordinarily "to study or analyze (a device, as a microchip for computers) in order to learn details of design, construction, and operation, perhaps to produce a copy or an improved version." Random House Unabridged

Dictionary (1993); see also The Free On-Line Dictionary of Computing (2001), at http://wombat.doc.ic.ac.uk/foldoc /foldoc.cgi?reverse+engineering (last visited Jul. 17, 2002). Thus, the contract in this case broadly prohibits any "reverse engineering" of the subject matter covered by the shrink-wrap agreement.

The record amply supports the jury's finding of a breach of that agreement. As discussed above, the district court erred in instructing the jury that copyright law limited the scope of Mr. Bowers' contract protection. Notwithstanding that error, this court may affirm the jury's breach of contract verdict if substantial record evidence would permit a reasonable jury to find in favor of Mr. Bowers based on a correct understanding of the law. *Larch v. Mansfield Mun. Elec. Dep't, 272 F.3d 63, 69 (1st Cir. 2001).* The shrink-wrap agreements in this case are far broader than the protection afforded by copyright law. Even setting aside copyright violations, the record supports a finding of breach of the agreement between the parties. In view of the breadth of Mr. Bowers' contracts, this court perceives that substantial evidence supports the jury's breach of contract verdict relating to both the DOS and Windows versions of Draft-Pak.

The record indicates, for example, that Baystate scheduled two weeks in Draft-Pak's development schedule to analyze the Designer's Toolkit. Indeed, Robert Bean, Baystate's president and CEO, testified that Baystate generally analyzed competitor's products to duplicate their functionality.

The record also contains evidence of extensive and unusual similarities between Geodraft and the accused Draft-Pak-further evidence of reverse engineering. James Spencer, head of mechanical engineering and integration at the Space and Naval Warfare Systems

Center, testified that he examined the relevant software programs to determine "the overall structure of the operating program" such as "how the operating programs actually executed the task of walking a user through creating a [GD&T] symbol." Mr. Spencer concluded: "In the process of taking the [ANSI Y14.5M] standard and breaking it down into its component parts to actually create a step-by-step process for a user using the software, both Geodraft and Draft-Pak [for DOS] use almost the identical process of breaking down that task into its individual pieces, and it's organized essentially identically." This evidence supports the jury's verdict of a contract breach based on reverse engineering.

Mr. Ford also testified that he had compared Geodraft and Draft-Pak. When asked to describe the Draft-Pak interface, Mr. Ford responded: "It looked like I was looking at my own program [i.e., Geodraft]." Both Mr. Spencer and Mr. Ford explained in detail similarities between Geodraft and the accused Draft-Pak. Those similarities included the interrelationships between program screens, the manner in which parameter selection causes program branching, and the manner in which the GD&T symbols are drawn.

Both witnesses also testified that those similarities extended beyond structure and design to include many idiosyncratic design choices and inadvertent design flaws. For example, both Geodraft and Draft-Pak offer "straightness tolerance" menu choices of "flat" and "cylindric," unusual in view of the use by ANSI Y14.5M of the terms "linear" and "circular," respectively. As another example, neither program requires the user to provide "angularity tolerance" secondary datum to create a feature control frame–a technical oversight that causes creation of an incomplete symbol. In sum, Mr. Spencer testified: "Based on my summary analysis of how the programs function, their errors from the

standard and their similar nomenclatures reflecting nonstandard items, I would say that the Draft-Pak [for DOS] is a derivative copy of a Geodraft product."

Mr. Ford and others also demonstrated to the jury the operation of Geodraft and both the DOS and Windows versions of the accused Draft-Pak. Those software demonstrations undoubtedly conveyed information to the jury that the paper record on appeal cannot easily replicate. This court, therefore, is especially reluctant to substitute its judgment for that of the jury on the sufficiency and interpretation of that evidence. In any event, the record fully supports the jury's verdict that Baystate breached its contract with Mr. Bowers.

Baystate does not contest the contract damages amount on appeal. Thus, this court sustains the district court's award of contract damages. Mr. Bowers, however, argues that the district court abused its discretion by dropping copyright damages from the combined damage award. To the contrary, this court perceives no abuse of discretion.

The shrink-wrap license agreement prohibited, inter alia, all reverse engineering of Mr. Bowers' software, protection encompassing but more extensive than copyright protection, which prohibits only certain copying. Mr. Bowers' copyright and contract claims both rest on Baystate's copying of Mr. Bowers' software. Following the district court's instructions, the jury considered and awarded damages on each separately. This was entirely appropriate. The law is clear that the jury may award separate damages for each claim, "leaving it to the judge to make appropriate adjustments to avoid double recovery." *Britton v. Maloney, 196 F.3d 24, 32 (1st Cir. 1999)* (citing *Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447, 451 n.3, 122 L. Ed. 2d 247, 113 S. Ct. 884 (1993));* see also *Data Gen. Corp. v. Grumman Sys. Support Corp., 825 F. Supp. 340, 346*

(D. Mass. 1993) ("So long as a plaintiff is not twice compensated for a single injury, a judgment may be comprised of elements drawn from separate . . . remedies."), aff'd in relevant part, *36 F.3d 1147 (1st Cir. 1994)*. In this case, the breach of contract damages arose from the same copying and included the same lost sales that form the basis for the copyright damages. The district court, therefore, did not abuse its discretion by omitting from the final damage award the duplicative copyright damages. Because this court affirms the district court's omission of the copyright damages, this court need not reach the merits of Mr. Bowers' copyright infringement claim.

B.

Turning now to the patent counts, patent claim language defines the scope of the invention. *SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 1121, 227 USPQ 577, 586 (Fed. Cir. 1985)* (en banc). As a general rule, claim language carries the ordinary meaning of the words in their normal usage in the field of invention. *Toro Co. v. White Consol. Indus., 199 F.3d 1295, 1299, 53 USPQ2d 1065, 1067 (Fed. Cir. 1999)*. Nevertheless, the inventor may act as his own lexicographer and use the specification to supply implicitly or explicitly new meanings for terms. *Markman v. Westview Instruments, Inc., 52 F.3d 967, 979-80, 34 USPQ2d 1321, 1330 (Fed. Cir. 1995)* (en banc), aff'd *517 U.S. 370, 134 L. Ed. 2d 577, 116 S. Ct. 1384 (1996)*. Thus, to help determine the proper construction of a patent claim, a construing court consults the written description, and, if in evidence, the prosecution history. Id. A claim construction that excludes from its scope a preferred embodiment "is rarely, if ever, correct and would require highly persuasive evidentiary support." *Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583, 39 USPQ2d 1573, 1578 (Fed. Cir. 1996)*.

As described previously, Mr. Bowers' invention claims a template that simplifies operation of a CAD program. A CAD program, such as CADKEY, comprises numerous commands accessible to the user in nested menus many layers deep. For example, CADKEY includes a variety of main menus, such as CREATE and TRANSFORM. Each main menu, in turn, offers many different selections. These options provide additional menus with further selection possibilities, or working functions. The CREATE main menu of CADKEY Version 3.02 is representative. A portion of that menu structure is shown below, where asterisks indicate material omitted for brevity:

CREATE
- Line
  - Endpts
    - *Cursor*
    - *Point*
    - *Endent*
    - *Center*
    - *Intrsc* } (Position menu)
    - *Alongl*
    - *Polar*
    - *Delta*
    - *Key – In*
  - String
    - (Position menu)
  - Par/prp
    - • • •
  - Tangent
    - *Arc Pt*
    - *2 Arcs*
  - Hrz/vrt
    - *Horizti*
    - *Vertict*
    - *Both*
  - *Angle*
  - Rectang
    - • • •
  - *N-Gon*
  - Mesh
    - *Ruled*

CREATE

- Line
  - Endpts
    - *Cursor*
    - *Point*
    - *Endent*
    - *Center*
    - *Intrsc* } (Position menu)
    - *Alongl*
    - *Polar*
    - *Delta*
    - *Key – In*
  - String
    - (Position menu)
  - Par/prp
    - . . .
  - Tangent
    - *Arc Pt*
    - *2 Arcs*
  - Hrz/vrt
    - *Horizti*
    - *Vertict*
    - *Both*
  - *Angle*
  - Rectang
    - . . .
  - N-Gon
  - Mesh
    - *Ruled*

General

- Arc
  - . . .
- Circle
  - . . .
- Point
  - . . .
- Polyln
  - . . .
- Fillet
  - . . .
- Chamfer
  - . . .
- Conic
  - . . .
- Polygon
  - . . .
- Spline
  - . . .

In this menu structure, menu items indicated in italicized type represent working functions, while all others represent additional menus simply providing more menu options. For example, "Line" is a sub-menu of CREATE. Selection of "Line" leads to a variety of menu items including the sub-sub-menu "Endpts" and the working function "*Angle.*" "Endpts," in turn, leads to a variety of working functions such as "*Cursor*" and "*Point.*"

The '*514* patent describes a template that presents a single visual representation of many of the available CAD program commands. Mr. Bowers asserts claim 1, the only independent claim:

1. In a computer system including a central processing unit having a keyboard entry station with a plurality of keys for data entry and a pointing device station having a pointer with at least one pointer button for data entry and responsive to positionable movement of said pointer, and including system operating functions having successive layers of a main menu of selectable group functions and [a plurality of sub-levels of sub-menus] successive series of a first layer of sub- menus, and at least a second sub-layer of sub-menus having selectable group sub-functions, accessible by successive entries on said keyboard or said pointer to select an ultimate working function, the improvement comprising:

(a) a template for use with said pointing device;

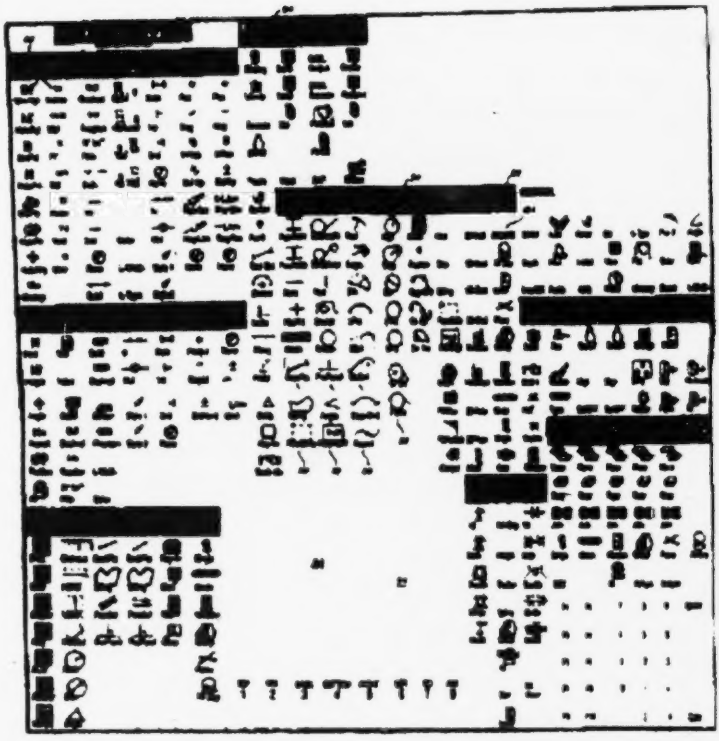
(b) indicia arranged on the template and located in a plurality of groups, one group of each corresponding to one predetermined, selectable item of said main menu and all said indicia in a respective group bearing a common group identifying characteristic;

(c) at least a second plurality of indicia, each of which corresponds to a predetermined selectable item of a sub-menu corresponding to an item of said main menu;

(d) means securing said templates in a fixed orientation to said tablet whereby said pointing device can select a working function with a single movement of the said button.

U. S. Patent No. B1 *4,933,514*, col. 1, l. 25 to col. 2, l. 19. The reissued claim's altered language is not at issue in this appeal.

Figs. 3A-D of the *'514* patent illustrate a template according to claim 1 and configured to operate with CADKEY. That template is illustrated below as a composite of Figs. 3A-D. The template includes a variety of indicia that represent selected items from the CADKEY menus. For example, the template includes the main-menu indicia "CREATE" (middle) and "TRANSFORM" (lower-right corner). In turn, other indicia are associated with those main-menu indicia (e.g., using location and color) to form main-menu indicia groups. To illustrate, the "CREATE" main-menu indicia group includes the sub-menus "Lines," "Arcs," "Circ," "Points," "Plygns," and "Splines" (sub-menu indicia), but not the remaining "CREATE" sub-menus "Polyin," "Fillet," "Chamfer," or "Conic," see supra at pp. 15-16. In the template, each of the "CREATE" group's sub-menus has working functions in columns below. The working function indicia represent working functions dependent from the relevant sub-menu. For example, the working function indicia associated with the "Lines" sub-menu fall below that heading and include "Tan:ArcPt," "Tan:2Arcs," "Horz," "Vert," and "Horz/Vert."



The parties dispute the meaning of paragraphs b, c, and d of claim 1. This court agrees generally with the district court's construction of paragraphs b and c. With respect to paragraph d, however, the district court erred in its construction. Under a correct construction of that paragraph, no reasonable jury could find that Baystate infringes claim 1. In view of this court's holding of noninfringement, this court does not reach the alternative ground for challenging the district court's judgment based on patent invalidity.

The district court construed paragraph b: "at least two groups must appear on a template where one group corresponds to a main menu item and the other corresponds to another main menu item." In other words, the template must include at least two main-menu indicia groups, such as the "CREATE" and

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"TRANSFORM" groups described above. Baystate argues, nevertheless, that the reexamination history requires that "every group of the template must correspond to a main menu item." The history of reexamination indicates otherwise.

During reexamination, Mr. Bowers noted that each group of the Keymaster template did not correspond to a main-menu item. With respect to those groups that did correspond to main- menu items, Mr. Bowers argued that those did not satisfy claim paragraphs c and d. Mr. Bowers thus admitted that a set of Keymaster template groups satisfy claim paragraph b, but he then distinguished them in view of paragraphs c and d. Specifically, Mr. Bowers stated: "Each of the groups of the Keymaster template does not correspond to one selectable item of the main menu of the Cadkey system." Baystate would read this statement to mean that the claim's reference to a "plurality" of groups on the template encompasses all groups on the template. In other words, Baystate reads "each" in several of Bowers' statement to mean "all." The claim, however, uses the term "plurality," meaning "comprising, or consisting of more than one." The Oxford English Dictionary (2d ed. 1989). Thus, Bowers' references to "each" refers to the "at least two groups" required by the claims. To read Bowers statements too strictly would exclude from claim scope the preferred embodiment of the *'514* patent–a disfavored result. That embodiment includes, for example, a group "SET" that is not associated with a CADKEY main-menu item. In sum, this court agrees with the district court's interpretation of paragraph b.

With respect to paragraph c, the district court interpreted claim 1 to require "that at least two indicia contained in the second set of indicia contained within one of the at least two groups of indicia described in claim 1(b) must correspond to an item of the first

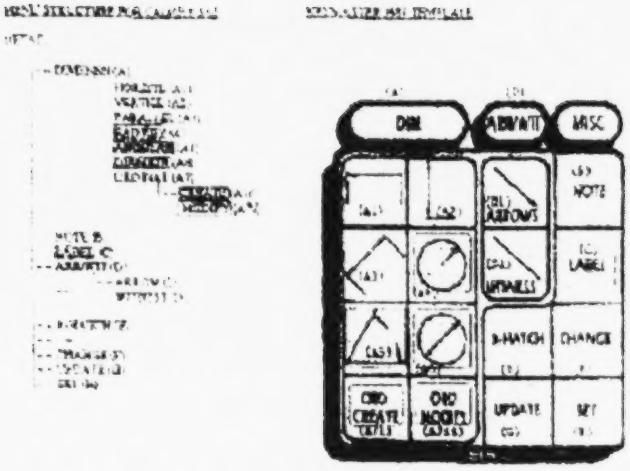
submenu of the main menu item to which the group corresponds." In other words, at least one of the main-menu indicia groups paragraph b requires must include at least two indicia associated with a sub- menu of the main-menu. '*514* patent at col. 4, ll. 9-16. The specification supports the trial court's interpretation. In the preferred embodiment, for example, the sub-menu "Lines" under the "CREATE" group defines two columns of indicia representing working functions. Id. at col. 4, ll. 9-16. The sub-menu indicium "Lines" and the working functions in columns below are associated with the "Lines" sub-menu of the "CREATE" main-menu, thus satisfying the claim requirement. In sum, paragraph c requires that at least one of the main-menu indicia groups include at least two indicia associated with the same sub-menu of the main-menu.

With respect to paragraph d, the district court held "that the single movement of the pointing device's button can, but need not, select a working function." Properly construed, however, this limitation requires that each of the indicia associated with the sub-menu of a main-menu group must represent a working function accessible with a single movement of the pointer button (e.g., as opposed to access through further selection via a drop-down menu). Using the "Lines" sub-menu as an example, see Figs. 3A-D supra at p. 18, paragraph d requires that all indicia below that sub-menu must represent working functions. The specification and the reexamination history support this construction of paragraph d.

As just described with respect to the "Lines" sub-menu, the '*514* patent discloses a sub-menu with one or more columns of working functions. '*514* patent at col. 4, ll. 9-16. This arrangement supplies the second plurality of indicia required by paragraph c. Id. at col. 4, ll. 9-16. The specification discloses expressly that all indicia

associated with sub-menus (i.e., "Line," "Arcs," etc.) of the "CREATE" group represent working functions. * Id. at col. 4, ll. 24-26. For example, two columns fall beneath the "Lines" sub-menu within the "CREATE" group. Each indicium in those columns, e.g., "Tan:ArcPt," "Tan:2Arcs," "Horz," "Vert," and "Horz/Vert," represents a working function that depends from the "Lines" sub-menu. Id. at col. 4, ll. 24-65 ("The individual items appearing in the rows of each of these columns [defined by the sub-menu indicia] represent an ultimate working function"). In other words, consistent with this court's construction, all the indicia associated with the sub-menus of the "CREATE" group represent working functions.

The reexamination history also precludes this court from adopting a broader construction. Specifically, with respect to "working functions," the claim language recites only that the "pointing device can select a working function with a single movement of the said button." During the reexamination proceedings, Mr. Bowers argued that the Keymaster template did not satisfy this limitation because that template's "DETAIL" and "TRANSFORM" main-menu groups included indicia that did not represent working functions. With reference to the "DETAIL" group more specifically, that group includes sub-menus "Dim," and "Arr/Wit," and an additional indicium "Misc." The Keymaster "DETAIL" group and relevant portions of the CADKEY 3.02 menu structure are shown in the figure below. In that figure, working functions are highlighted.



The indicia "Dim," "Arr/Wit," and "Misc" each have a group of indicia underneath them. However, as shown above, none of those indicia groups includes only working functions. With respect to the group "Misc," Mr. Bowers made clear that the indicia "Note," "X-Hatch," "Change," and "Set," all represented additional menus rather than working functions. For example, selecting the indicium "X-Hatch" simply presents an opportunity to select the actual working cross-hatching functions of "*Brick*," "*Steel*," "*Copper*," "*Alloys*," "*Aluminum*," "*Rubber*," or "*Marble*" (not shown in the menu structure above). A user simply cannot access these cross-hatching functions through a single movement of the pointing device button using the Keymaster template. In like manner, as shown in the figure, the indicia groups associated with "Dim" and "Arr/Wit," respectively, also include indicia that do not represent working functions.

After claim construction, the infringement inquiry shifts to a comparison of the claim with the allegedly infringing device. *Kemco Sales, Inc. v. Control Papers Co., 208 F.3d 1352, 1359, 54 USPQ2d 1308, 1312 (Fed. Cir. 2000)*. To prove infringement, the patentee must show that the accused device contains each limitation of the asserted claim, *Mas-Hamilton Group v.*

LaGard, Inc., 156 F.3d 1206, 1211, 48 USPQ2d 1010, 1014 (Fed. Cir. 1998), or an equivalent of each limitation, *Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40, 137 L. Ed. 2d 146, 117 S. Ct. 1040 (1997)*. This comparison is a question of fact. *Bai, 160 F.3d at 1353*. Hence, a change in the claim construction at the appellate level generally necessitates a remand to the district court to consider new factual issues unless the record on appeal supplies substantial evidence to support the jury verdict under the new claim construction. See Fed. R. Civ. P. 50.

On the issue of literal infringement, Mr. Bowers relies upon the accused templates' "CREATE" and "TRANSFORM" groups to satisfy the limitations of claim 1. With respect to paragraph d, Mr. Bowers proffered evidence showing only that each of the "CREATE" and "TRANSFORM" groups included some, but not all, indicia representing working functions. Moreover, the record contained undisputed evidence showing that the limitations of paragraph d are not met.

Specifically, Baystate's director of MIS (management information systems), John Pentecost, produced reports comparing menu trees of the relevant versions of CADKEY with corresponding versions of Baystate's accused Draft-Pak templates. That unrebutted evidence shows that each of the sub-menus under the "CREATE" group includes an associated dependent indicium–e.g., "End Pts" depending from "Line"; "3Pts" depending from "Arc"; "Ctr + Edge" depending from "Circle"; "Pos" depending from "Point"; "String" depending from "Polyin"; "5 Cond" depending from "Conic"; "Rect" depending from "Polygon"; and "2D Cubic" depending from "Spline"–that activates menus rather than a working function. Moreover, that evidence shows that none of the "TRANSFORM" group indicia activates working functions. This court, therefore, determines

that the record shows that the '*514* patent is not literally infringed. Because Mr. Bowers did not assert infringement under the doctrine of equivalents, this court does not consider that issue.

In sum, this court perceives no basis upon which a reasonable jury could find that Baystate's accused templates infringe claim 1 of the '*514* patent. Hence, this court reverses the district court's denial of Baystate's motion for JMOL of non-infringement.

CONCLUSION

Because substantial evidence supports the jury's verdict that Baystate breached its contract with Mr. Bowers, this court affirms that verdict. This court holds also that the district court did not abuse its discretion in omitting as duplicative copyright damages from the damage award. Because no reasonable jury could find that Baystate infringes properly construed claim 1, this court reverses the verdict of patent infringement.

COSTS

Each party shall bear its own costs.

AFFIRMED-IN-PART, REVERSED-IN-PART

----------Footnotes----------

* Bowers urges in a conclusory fashion that this construction would render the preferred embodiment outside the scope of the claims, a result that requires "highly persuasive evidentiary support," *Vitronics Corp. v Conceptronic, Inc., 90 F.3d 1576, 1583, 39 USPQ2d 1573, 1578 (Fed. Cir. 1996).* Bowers has not established his premise (that the preferred embodiment is outside the claim scope), and even if he had, the reexamination history provides just that highly persuasive evidentiary support, as this court explains below.

n2 In the patent context, reverse engineering is viewed as an important right of the public. *Bonito Boats, 489 U.S. at 160.*

CONCURBY:
DYK (In Part)

DISSENTBY:
DYK (In Part)

DISSENT:

DYK, Circuit Judge, concurring in part and dissenting in part.

I join the majority opinion except insofar as it holds that the contract claim is not preempted by federal law. n1 Based on the petition for rehearing and the opposition, I have concluded that our original decision on the preemption issue, reaffirmed in today's revision of the majority opinion, was not correct. By holding that shrinkwrap licenses that override the fair use defense are not preempted by the Copyright Act, *17 U.S.C. § § 101* et seq., the majority has rendered a decision in conflict with the only other federal court of appeals decision that has addressed the issue - the Fifth Circuit decision in *Vault Corp. v. Quaid Software Ltd., 847 F.2d 255 (5th Cir. 1988).* The majority's approach permits state law to eviscerate an important federal copyright policy reflected in the fair use defense, and the majority's logic threatens other federal copyright policies as well. I respectfully dissent.

I

Congress has made the Copyright Act the exclusive means for protecting copyright. The Act provides that

"all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright . . . are governed exclusively by this title." *17 U.S.C. § 301*(a) (2000). All other laws, including the common law, are preempted. "No person is entitled to any such right or equivalent right in any such work under the common law or statutes of any State." Id.

The test for preemption by copyright law, like the test for patent law preemption, should be whether the state law "substantially impedes the public use of the otherwise unprotected" material. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 157, 167, 103 L. Ed. 2d 118, 109 S. Ct. 971 (1989)* (state law at issue was preempted because it "substantially restricted the public's ability to exploit ideas that the patent system mandates shall be free for all to use."); *Sears, Roebuck & Co. v. Stiffel Co., 376 U.S. 225, 231-32, 11 L. Ed. 2d 661, 84 S. Ct. 784, 1964 Dec. Comm'r Pat. 425 (1964).* See also *Eldred v. Ashcroft, 123 S. Ct. 769, 2003 U.S. LEXIS 751 (U.S. 2003)* (applying patent precedent in copyright case). In the copyright area, the First Circuit has adopted an "equivalent in substance" test to determine whether a state law is preempted by the Copyright Act. *Data Gen. Corp. v. Grumman Sys. Support Corp. 36 F.3d 1147, 1164-65 (1st Cir. 1994).* That test seeks to determine whether the state cause of action contains an additional element not present in the copyright right, such as scienter. If the state cause of action contains such an extra element, it is not preempted by the Copyright Act. Id. However, "such an action is equivalent in substance to a copyright infringement claim [and thus preempted by the Copyright Act] where the additional element merely concerns the extent to which authors and their licensees can prohibit unauthorized copying by third parties." *Id. at 1165* (emphasis in original).

II

The fair use defense is an important limitation on copyright. Indeed, the Supreme Court has said that "from the infancy of copyright protection, some opportunity for fair use of copyrighted materials has been thought necessary to fulfill copyright's very purpose, 'to promote the Progress of Science and useful Arts. . . .' U.S. Const., Art. I, § 8, cl.8." *Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 575, 127 L. Ed. 2d 500, 114 S. Ct. 1164 (1994).* The protective nature of the fair use defense was recently emphasized by the Court in the Eldred case, in which the Court noted that "copyright law contains built-in accommodations," including "the 'fair use' defense [which] allows the public to use not only facts an ideas contained in the copyrighted work, but also expression itself in certain circumstances." *123 S. Ct. 769, 2003 U.S. LEXIS 751,* *58.

We correctly held in *Atari Games Corp. v. Nintendo of America, Inc., 975 F.2d 832, 843 (Fed. Cir. 1992)*, that reverse engineering constitutes a fair use under the Copyright Act.[2] The Ninth and Eleventh Circuits have also ruled that reverse engineering constitutes fair use. *Bateman v. Mnemonics, Inc., 79 F.3d 1532, 1539 n.18 (11th Cir. 1996); Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510, 1527-28 (9th Cir. 1992).* No other federal court of appeals has disagreed.

We emphasized in Atari that an author cannot achieve protection for an idea simply by embodying it in a computer program. "An author cannot acquire patent-like protection by putting an idea, process, or method of operation in an unintelligible format and asserting copyright infringement against those who try to understand that idea, process, or method of operation." *975 F.2d at 842.* Thus, the fair use defense for reverse engineering is necessary so that copyright protection

does not "extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work," as proscribed by the Copyright Act *17 U.S.C. § 102*(b) (2000).

III

A state is not free to eliminate the fair use defense. Enforcement of a total ban on reverse engineering would conflict with the Copyright Act itself by protecting otherwise unprotectable material. If state law provided that a copyright holder could bar fair use of the copyrighted material by placing a black dot on each copy of the work offered for sale, there would be no question but that the state law would be preempted. A state law that allowed a copyright holder to simply label its products so as to eliminate a fair use defense would "substantially impede" the public's right to fair use and allow the copyright holder, through state law, to protect material that the Congress has determined must be free to all under the Copyright Act. See *Bonito Boats, 489 U.S. at 157.*

I nonetheless agree with the majority opinion that a state can permit parties to contract away a fair use defense or to agree not to engage in uses of copyrighted material that are permitted by the copyright law, if the contract is freely negotiated. See, e.g., *Nat'l Car Rental Sys., Inc. v. Computer Assocs. Int'l, Inc., 991 F.2d 426 (8th Cir. 1993); Acorn Structures v. Swantz, 846 F.2d 923, 926 (4th Cir. 1988).* See also *Taquino v. Teledyne Monarch Rubber, 893 F.2d 1488 (5th Cir. 1990).* But see *Wrench LLC v. Taco Bell Corp., 256 F.3d 446, 457 (6th Cir. 2001)* ("If the promise amounts only to a promise to refrain from reproducing, performing, distributing or displaying the work, then the contract claim is preempted."). A freely negotiated

agreement represents the "extra element" that prevents preemption of a state law claim that would otherwise be identical to the infringement claim barred by the fair use defense of reverse engineering. See *Data Gen., 36 F.3d at 1164-65.*

However, state law giving effect to shrinkwrap licenses is no different in substance from a hypothetical black dot law. Like any other contract of adhesion, the only choice offered to the purchaser is to avoid making the purchase in the first place. See *Fuentes v. Shevin, 407 U.S. 67, 95, 32 L. Ed. 2d 556, 92 S. Ct. 1983 (1972).* State law thus gives the copyright holder the ability to eliminate the fair use defense in each and every instance at its option. In doing so, as the majority concedes, it authorizes "shrinkwrap agreements . . . [that] are far broader than the protection afforded by copyright law." Ante at 13.

IV

There is, moreover, no logical stopping point to the majority's reasoning. The amici rightly question whether under our original opinion the first sale doctrine and a host of other limitations on copyright protection might be eliminated by shrinkwrap licenses in just this fashion. See Brief for Electric Frontier Foundation et al. as Amici Curiae 10. If by printing a few words on the outside of its product a party can eliminate the fair use defense, then it can also, by the same means, restrict a purchaser from asserting the "first sale" defense, embodied in *17 U.S.C. § 109*(a), or any other of the protections Congress has afforded the public in the Copyright Act. That means that, under the majority's reasoning, state law could extensively undermine the protections of the Copyright Act.

V

The Fifth Circuit's decision in Vault directly supports preemption of the shrinkwrap limitation. The majority states that Vault held that "a state law prohibiting all copying of a computer program is preempted by the federal Copyright Act" and then states that "no evidence suggests the First Circuit would extend this concept to include private contractual agreements supported by mutual assent and consideration." Ante at 11. But, in fact, the Fifth Circuit held that the specific provision of state law that authorized contracts prohibiting reverse engineering, decompilation, or disassembly of computer programs was preempted by federal law because it conflicted with a portion of the Copyright Act and because it "'touched upon an area' of federal copyright law." *847 F.2d at 269-70* (quoting *Sears, Roebuck, 376 U.S. at 229)*. From a preemption standpoint, there is no distinction between a state law that explicitly validates a contract that restricts reverse engineering (Vault) and general common law that permits such a restriction (as here). On the contrary, the preemption clause of the Copyright Act makes clear that it covers "any such right or equivalent right in any such work under the common law or statutes of any State." *17 U.S.C. § 301*(a) (2000) (emphasis added).

I do not read *ProCD, Inc. v. Zeidenberg, 86 F.3d 1447 (7th Cir. 1996)*, the only other court of appeals shrinkwrap case, as being to the contrary, even though it contains broad language stating that "a simple two-party contract is not 'equivalent to any of the exclusive rights within the general scope of copyright.'" *Id. at 1455*. In ProCD, the Seventh Circuit validated a shrinkwrap license that restricted the use of a CD-ROM to non-commercial purposes, which the defendant had violated by charging users a fee to access the CD-ROM over the Internet. The court held that the restriction to non-commercial use of the program was not equivalent to any rights protected by the Copyright Act. Rather, the

"contract reflected private ordering, essential to efficient functioning of markets." *Id. at 1455.* The court saw the licensor as legitimately seeking to distinguish between personal and commercial use. "ProCD offers software and data for two prices: one for personal use, a higher prices for commercial use," the court said. The defendant "wants to use the data without paying the seller's price." *Id. at 1454.* The court also emphasized that the license "would not withdraw any information from the public domain" because all of the information on the CD-ROM was publicly available. *Id. at 1455.*

The case before us is different from ProCD. The Copyright Act does not confer a right to pay the same amount for commercial and personal use. It does, however, confer a right to fair use, *17 U.S.C. § 107*, which we have held encompasses reverse engineering.

ProCD and the other contract cases are also careful not to create a blanket rule that all contracts will escape preemption. The court in that case emphasized that "we think it prudent to refrain from adopting a rule that anything with the label 'contract' is necessarily outside the preemption clause." *86 F.3d at 1455.* It also noted with approval another court's "recogni[tion of] the possibility that some applications of the law of contract could interfere with the attainment of national objectives and therefore come within the domain" of the Copyright Act. Id. The Eighth Circuit too cautioned in National Car Rental that a contractual restriction could impermissibly "protect rights equivalent to the exclusive copyright rights." *991 F.2d at 432.*

I conclude that Vault states the correct rule; that state law authorizing shrinkwrap licenses that prohibit reverse engineering is preempted; and that the First Circuit would so hold because the extra element here "merely concerns the extent to which authors and their licensees can prohibit unauthorized copying by third

parties." *Data Gen., 36 F.3d at 1165* (emphasis in original). I respectfully dissent.

Footnotes

n1 Like the majority, I do not reach the copyright claim.

01-1108, 01-1109

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

HAROLD L. BOWERS (doing business as HLB Technology), Plaintiff-Cross Appellant,

v.

BAYSTATE TECHNOLOGIES, INC., Defendant-Appellant.

August 20, 2002, Decided

NOTICE: THIS OPINION WAS VACATED BY THE COURT

COUNSEL: Frederic M. Meeker, Banner & Witcoff, LTD, of Washington, DC, argued for plaintiff-cross appellant. With him on the brief were Steve S. Chang and Bradley C. Wright of Washington, DC; and Charles W. Shifley of Chicago, Illinois.

Robert L. Kann, Bromberg & Sunstein LLP, of Boston, Massachusetts, argued for defendant-appellant. Of counsel was Judith R. S. Stern.

JUDGES: Before CLEVENGER, RADER, and DYK, Circuit Judges.

OPINIONBY: RADER

OPINION:

RADER, Circuit Judge.

Following trial in the United States District Court for the District of Massachusetts, the jury returned a verdict for Harold L. Bowers on his patent infringement, copyright

infringement, and breach of contract claims, while rejecting Baystate Technologies, Inc.'s claim for patent invalidity. The jury awarded Mr. Bowers separate damages on each of his claims. The district court, however, omitted the copyright damages as duplicative of the contract damages. Because substantial evidence supports the jury's verdict that Baystate breached the contract, this court affirms that verdict. This court holds also that the district court did not abuse its discretion in modifying the damages award. Nevertheless, because no reasonable jury could find that Baystate infringes claim 1 as properly construed, this court reverses the patent infringement verdict.

I.

Harold L. Bowers (Bowers) created a template to improve computer aided design (CAD) software, such as the CADKEY tool of Cadkey, Inc. Mr. Bowers filed a patent application for his template on February 27, 1989. On June 12, 1990, United States Patent No. 4,933,514 ('514 patent) issued from that application.

Generally, a CAD software program has many commands that the software presents to the user in nested menus many layers deep. The layering often makes it difficult for a user to find quickly a desired command. To address this problem, the claimed template works with a CAD system as illustrated in Fig. 1 of the '514 patent. In that figure, the '514 patent template lies on top of the digitizing tablet 18 of a CAD computer. The user selects data from the template with a pointing device 20. The template places the many CAD commands in a claimed visual and logical order. Figure 1 shows:

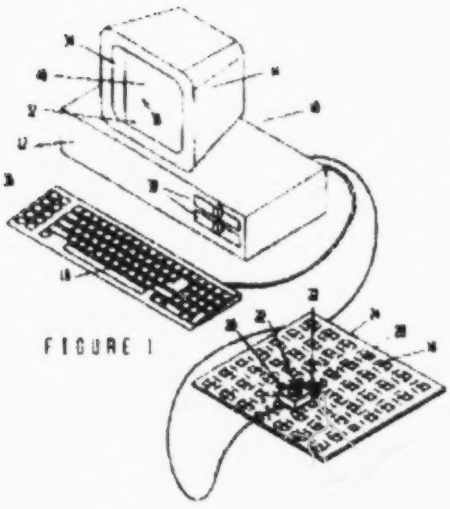


FIGURE 1

Mr. Bowers commercialized the '514 patent template as Cadjet for use with CADKEY.

On February 1, 1993, Mr. Bowers requested reexamination of the '514 patent in view of prior art, namely the Keymaster template. Like the '514 patent template, the Keymaster template provides a unified visual representation of many CAD commands. Like the preferred embodiment of the '514 patent, the Keymaster template operates with CADKEY software. Following examiner rejections, the Board of Patent Appeals and Interferences ultimately found some amended claims of the '514 patent patentable. The PTO issued a reexamination certificate on December 9, 1997. U.S. Patent No. B1 4,933,514.

Since the early 1980s, CAD programs have assisted engineers to draft and design on a computer screen. George W. Ford, III, a development engineer and supervisor of quality control at Heinemann Electric, envisioned a way to improve Mr. Bowers' template and CAD software. Specifically, Mr. Ford designed Geodraft,

a DOS-based add-on program to operate with CAD. Geodraft allows an engineer to insert technical tolerances for features of the computer- generated design. These tolerances comply with the geometric dimensioning and tolerancing (GD&T) requirements in ANSI Y14.5M, a standard promulgated by the American National Standards Institute (ANSI). Geodraft works in conjunction with the CAD system to ensure that the design complies with ANSI Y14.5M-a task previously error-prone due to the standard's complexity. Geodraft automatically includes symbols specifying the correct GD&T parameters. Mr. Ford obtained a registered copyright, TX 2-939-672, covering Geodraft.

In 1989, Mr. Ford offered Mr. Bowers an exclusive license to his Geodraft software. Mr. Bowers accepted that offer and bundled Geodraft and Cadjet together as the Designer's Toolkit. Mr. Bowers sold the Designer's Toolkit with a shrink-wrap license that, inter alia, prohibited any reverse engineering.

In 1989, Baystate also developed and marketed other tools for CADKEY. One of those tools, Draft-Pak version 1 and 2, featured a template and GD&T software. In 1988 and 1989, Mr. Bowers offered to establish a formal relationship with Baystate, including bundling his template with Draft-Pak. Baystate rejected that offer, however, telling Mr. Bowers that it believed it had "the in-house capability to develop the type of products you have proposed."

In 1990, Mr. Bowers released Designer's Toolkit. By January 1991, Baystate had obtained copies of that product. Three months later, Baystate introduced the substantially revised Draft-Pak version 3, incorporating many of the features of Designer's Toolkit. Although, Draft-Pak version 3 operated in the DOS environment,

Baystate later upgraded it to operate with Microsoft Windows TM .

Baystate's introduction of Draft-Pak version 3 induced intense price competition between Mr. Bowers and Baystate. To gain market share over Baystate, Mr. Bowers negotiated with Cadkey, Inc., to provide the Designer's Toolkit free with CADKEY. Mr. Bowers planned to recoup his profits by selling software upgrades to the users that he hoped to lure to his products. Following pressure from Baystate, however, Cadkey, Inc., repudiated its distribution agreement with Mr. Bowers. Eventually, Baystate purchased Cadkey, Inc., and eliminated Mr. Bowers from the CADKEY network--effectively preventing him from developing and marketing the Designer's Toolkit for that program.

On May 16, 1991, Baystate sued Mr. Bowers for declaratory judgment that 1) Baystate's products do not infringe the '514 patent, 2) the '514 patent is invalid, and 3) the '514 patent is unenforceable. Mr. Bowers filed counterclaims for copyright infringement, patent infringement, and breach of contract.

Following trial, the jury found for Mr. Bowers and awarded $ 1,948,869 for copyright infringement, $ 3,831,025 for breach of contract, and $ 232,977 for patent infringement. The district court, however, set aside the copyright damages as duplicative of the contract damages and entered judgment for $ 5,270,142 (including pre-judgment interest). Baystate filed timely motions for judgment as a matter of law (JMOL), or for a new trial, on all of Mr. Bowers' claims. Baystate appeals the district court's denial of its motions for JMOL or a new trial, while Mr. Bowers appeals the district court's denial of copyright damages. This court has jurisdiction under 28 U.S.C. § 1295(a)(1) (2000).

II.

Baystate raises a number of issues that are not unique to the jurisdiction of this court. On those issues, this court applies the law of the circuit from which the appeal is taken, here the First Circuit. Glaxo, Inc. v. Novopharm, Ltd., 110 F.3d 1562, 1572, 42 U.S.P.Q.2d 1257, 1265 (Fed. Cir. 1996); Atari, Inc. v. JS&A Group, Inc., 747 F.2d 1422, 1439-40, 223 U.S.P.Q. 1074, 1087 (Fed. Cir. 1984) (en banc).

Under the law of the First Circuit, a court of appeals reviews without deference the district court's denia' of JMOL. Larch v. Mansfield Mun. Elec. Dep't, 272 F.3d 63, 67 (1st Cir. 2001). The inquiry is whether the evidence, when viewed from the perspective most favorable to the non-movant, would permit a reasonable jury to find in favor of that party on any permissible claim or theory. Id. The First Circuit reviews the district court's denial of a motion for a new trial for manifest abuse of discretion. Seahorse Marine Supplies, Inc. v. P.R. Sun Oil Co., 295 F.3d 68, 82 (2002). The First Circuit will reduce or set aside a damage award only if it exceeds "any rational appraisal or estimate of the damages that could be based upon the evidence before the jury." Segal v. Gilbert Color Sys., Inc., 746 F.2d 78, 81 (1st Cir. 1984) (quoting Glazer v. Glazer, 374 F.2d 390, 413 (5th Cir.)). Nevertheless, in the First Circuit, a district court has authority to resolve whether damages awarded by a jury are duplicative, a determination that a court of appeals reviews for an abuse of discretion. Garshman Co. v. Gen. Elec. Co., 176 F.3d 1, 6 (1st Cir. 1999). Further, the First Circuit treats federal preemption as a question of law and reviews it without deference. United States v. R.I. Insurers' Insolvency Fund, 80 F.3d 616, 619 (1st Cir. 1996) ("[A] federal preemption ruling presents a pure question of law subject to plenary review.").

Claim construction is a question of law that this court reviews without deference. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454, 46 U.S.P.Q.2d 1169, 1173-74 (Fed. Cir. 1998) (en banc). Infringement, whether literal or under the doctrine of equivalents, is a question of fact. Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353, 48 U.S.P.Q.2d 1674, 1676 (Fed. Cir. 1998); Optical Disc Corp. v. Del Mar Avionics, 208 F.3d 1324, 1333-34, 54 U.S.P.Q.2d 1289, 1294-95 (Fed. Cir. 2000). Obviousness is a question of law, Graham v. John Deere Co., 383 U.S. 1, 17, 15 L. Ed. 2d 545, 86 S. Ct. 684 (1966), premised on underlying factual determinations, Dennison Mfg. v. Panduit Corp., 475 U.S. 809, 810-11, 89 L. Ed. 2d 817, 106 S. Ct. 1578 (1986). Anticipation is a question of fact. Atlas Powder Co. v. Ireco, Inc., 190 F.3d 1342, 1346 51 U.S.P.Q.2d 1943, 1945 (Fed. Cir. 1999). Therefore, a district court properly may deny JMOL on these factual issues where substantial evidence supports the jury verdict. Fed. R. Civ. P. 50(a)(1); Sheils Title Co., Inc. v. Commonwealth Land Title Ins. Co., 184 F.3d 10, 19 (1st Cir. 1999).

A.

Baystate contends that the Copyright Act preempts the prohibition of reverse engineering embodied in Mr. Bowers' shrink-wrap license agreements. Swayed by this argument, the district court considered Mr. Bowers' contract and copyright claims coextensive. The district court instructed the jury that "reverse engineering violates the license agreement only if Baystate's product that resulted from reverse engineering infringes Bowers' copyright because it copies protectable expression." Mr. Bowers lodged a timely objection to this instruction. This court holds that, under First Circuit law, the

Copyright Act does not preempt or narrow the scope of Mr. Bowers' contract claim.

Courts respect freedom of contract and do not lightly set aside freely-entered agreements. Beacon Hill Civic Ass'n v. Ristorante Toscano, 422 Mass. 318, 662 N.E.2d 1015, 1017 (Mass. 1996). Nevertheless, at times, federal regulation may preempt private contract. Cf. Nebbia v. New York, 291 U.S. 502, 523, 78 L. Ed. 940, 54 S. Ct. 505 (1934) ("Equally fundamental with the private right is [the right] of the public to regulate [the private right] in the common interest."). The Copyright Act provides that "all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright . . . are governed exclusively by this title." 17 U.S.C. § 301(a) (2000). The First Circuit does not interpret this language to require preemption as long as "a state cause of action requires an extra element, beyond mere copying, preparation of derivative works, performance, distribution or display." Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1164, 32 U.S.P.Q.2d 1385, 1397 (1st Cir. 1994) (quoting Gates Rubber Co. v. Bando Chem. Indus., 9 F.3d 823, 847, 28 U.S.P.Q.2d 1503, 1520 (10th Cir. 1993)); see also Computer Assoc. Int'l, Inc. v. Altai, Inc., 982 F.2d 693, 716 (2d Cir. 1992) ("But if an 'extra element' is 'required instead of or in addition to the acts of reproduction, performance, distribution or display, in order to constitute a state-created cause of action, then the right does not lie "within the general scope of copyright," and there is no preemption.'") (quoting 1 Nimmer on Copyright § 1.01[B] at 1-15). Nevertheless, "not every 'extra element' of a state law claim will establish a qualitative variance between the rights protected by federal copyright law and those protected by state law." Id.

In Data General, Data General alleged that Grumman misappropriated its trade secret software. 36 F.3d at 1155. Grumman obtained that software from Data General's customers and former employees who were bound by confidentiality agreements to refrain from disclosing the software. Id. at 1154-55. In defense, Grumman argued that the Copyright Act preempted Data General's trade secret claim. Id. at 1158, 1165. The First Circuit held that the Copyright Act did not preempt the state law trade secret claim. Id. at 1165. Beyond mere copying, that state law claim required proof of a trade secret and breach of a duty of confidentiality. Id. These additional elements of proof, according to the First Circuit, made the trade secret claim qualitatively different from a copyright claim. Id. In contrast, the First Circuit noted that claims might be preempted whose extra elements are illusory, being "mere labels attached to the same odious business conduct." Id. at 1165 (quoting Mayer v. Josiah Wedgwood & Sons, Ltd., 601 F. Supp. 1523, 1535, 225 U.S.P.Q. 776, 784 (S.D.N.Y. 1985)). For example, the First Circuit observed that "a state law misappropriation claim will not escape preemption . . . simply because a plaintiff must prove that copying was not only unauthorized but also commercially immoral." Id.

The First Circuit has not addressed expressly whether the Copyright Act preempts a state law contract claim that restrains copying. This court perceives, however, that Data General's rationale would lead to a judgment that the Copyright Act does not preempt the state contract action in this case. Indeed, most courts to examine this issue have found that the Copyright Act does not preempt contractual constraints on copyrighted articles. See, e.g., ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 39 U.S.P.Q.2d 1161 (7th Cir. 1996) (holding that a shrink-wrap license was not preempted by federal

copyright law); Wrench LLC v. Taco Bell Corp., 256 F.3d 446, 457, 59 U.S.P.Q.2d 1434, 1441-42 (6th Cir. 2001) (holding a state law contract claim not preempted by federal copyright law); Nat'l Car Rental Sys., Inc. v. Computer Assocs. Int'l, Inc., 991 F.2d 426, 433, 26 U.S.P.Q.2d 1370, 1376 (8th Cir. 1993); Taquino v. Teledyne Monarch Rubber, 893 F.2d 1488, 1501 (5th Cir. 1990); Acorn Structures v. Swantz, 846 F.2d 923, 926, 6 U.S.P.Q.2d 1810, 1812 (4th Cir. 1988); but see Lipscher v. LRP Publs., Inc., 266 F.3d 1305, 1312, 60 U.S.P.Q.2d 1468, 1473 (11th Cir. 2001).

In ProCD, for example, the court found that the mutual assent and consideration required by a contract claim render that claim qualitatively different from copyright infringement. 86 F.3d at 1454. Consistent with Data General's reliance on a contract element, the court in ProCD reasoned: "A copyright is a right against the world. Contracts, by contrast, generally affect only their parties; strangers may do as they please, so contracts do not create 'exclusive rights.'" Id. This court believes that the First Circuit would follow the reasoning of ProCD and the majority of other courts to consider this issue. This court, therefore, holds that the Copyright Act does not preempt Mr. Bowers' contract claims.

This court now considers the scope of Mr. Bowers' contract protection. Without objection to the choice of law, the district court applied Massachusetts contract law. Accordingly, contract terms receive "the sense and meaning of the words which the parties have used; and if clear and free from ambiguity the words are to be taken and understood in their natural, usual and ordinary sense." Farber v. Mutual Life Ins. Co., 250 Mass. 250, 253, 145 N.E. 535 (Mass. 1924); see also Kelly v. Marx, 428 Mass. 877, 881, 705 N.E.2d 1114 (Mass. 1999) ("The proper course is to enforce contracts according to their plain meaning and not to undertake to be wiser

than the parties.") (quoting Guerin v. Stacy, 175 Mass. 595, 597, 56 N.E. 892 (1900) (Holmes, C.J.)).

In this case, the contract unambiguously prohibits "reverse engineering." That term means ordinarily "to study or analyze (a device, as a microchip for computers) in order to learn details of design, construction, and operation, perhaps to produce a copy or an improved version." Random House Unabridged Dictionary (1993); see also The Free On-Line Dictionary of Computing (2001), at http://wombat.doc.ic.ac.uk/foldoc /foldoc.cgi?reverse+engineering (last visited Jul. 17, 2002). Thus, the contract in this case broadly prohibits any "reverse engineering" of the subject matter covered by the shrink-wrap agreement.

The record amply supports the jury's finding of a breach of that agreement. As discussed above, the district court erred in instructing the jury that copyright law limited the scope of Mr. Bowers' contract protection. Notwithstanding that error, this court may affirm the jury's breach of contract verdict if substantial record evidence would permit a reasonable jury to find in favor of Mr. Bowers based on a correct understanding of the law. Larch v. Mansfield Mun. Elec. Dep't, 272 F.3d 63, 69 (1st Cir. 2001). The shrink-wrap agreements in this case are far broader than the protection afforded by copyright law. Even setting aside copyright violations, the record supports a finding of breach of the agreement between the parties. In view of the breadth of Mr. Bowers' contracts, this court perceives that substantial evidence supports the jury's breach of contract verdict relating to both the DOS and Windows versions of Draft-Pak.

The record indicates, for example, that Baystate

scheduled two weeks in Draft-Pak's development schedule to analyze the Designer's Toolkit. Indeed, Robert Bean, Baystate's president and CEO, testified that Baystate generally analyzed competitor's products to duplicate their functionality.

The record also contains evidence of extensive and unusual similarities between Geodraft and the accused Draft-Pak-further evidence of reverse engineering. James Spencer, head of mechanical engineering and integration at the Space and Naval Warfare Systems Center, testified that he examined the relevant software programs to determine "the overall structure of the operating program" such as "how the operating programs actually executed the task of walking a user through creating a [GD&T] symbol." Mr. Spencer concluded: "In the process of taking the [ANSI Y14.5M] standard and breaking it down into its component parts to actually create a step-by-step process for a user using the software, both Geodraft and Draft-Pak [for DOS] use almost the identical process of breaking down that task into its individual pieces, and it's organized essentially identically." This evidence supports the jury's verdict of a contract breach based on reverse engineering.

Mr. Ford also testified that he had compared Geodraft and Draft-Pak. When asked to describe the Draft-Pak interface, Mr. Ford responded: "It looked like I was looking at my own program [i.e., Geodraft]." Both Mr. Spencer and Mr. Ford explained in detail similarities between Geodraft and the accused Draft-Pak. Those similarities included the interrelationships between program screens, the manner in which parameter selection causes program branching, and the manner in which the GD&T symbols are drawn.

Both witnesses also testified that those similarities extended beyond structure and design to include many idiosyncratic design choices and inadvertent design flaws. For example, both Geodraft and Draft-Pak offer "straightness tolerance" menu choices of "flat" and "cylindric," unusual in view of the use by ANSI Y14.5M of the terms "linear" and "circular," respectively. As another example, neither program requires the user to provide "angularity tolerance" secondary datum to create a feature control frame–a technical oversight that causes creation of an incomplete symbol. In sum, Mr. Spencer testified: "Based on my summary analysis of how the programs function, their errors from the standard and their similar nomenclatures reflecting nonstandard items, I would say that the Draft-Pak [for DOS] is a derivative copy of a Geodraft product."

Mr. Ford and others also demonstrated to the jury the operation of Geodraft and both the DOS and Windows versions of the accused Draft-Pak. Those software demonstrations undoubtedly conveyed information to the jury that the paper record on appeal cannot easily replicate. This court, therefore, is especially reluctant to substitute its judgment for that of the jury on the sufficiency and interpretation of that evidence. In any event, the record fully supports the jury's verdict that Baystate breached its contract with Mr. Bowers.

Baystate does not contest the contract damages amount on appeal. Thus, this court sustains the district court's award of contract damages. Mr. Bowers, however, argues that the district court abused its discretion by dropping copyright damages from the combined damage award. To the contrary, this court perceives no abuse of discretion.

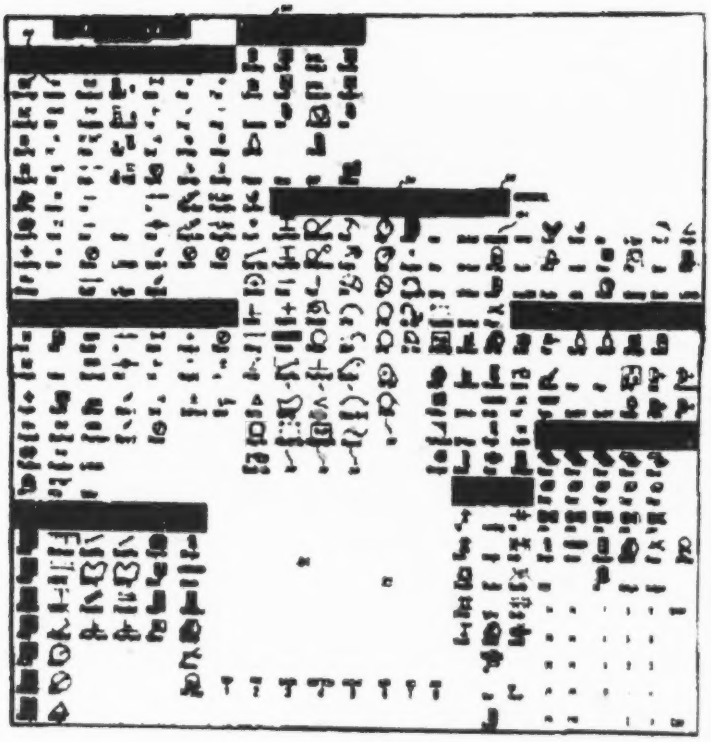
The shrink-wrap license agreement prohibited, inter alia, all reverse engineering of Mr. Bowers' software, protection encompassing but more extensive than copyright protection, which prohibits only certain copying. Mr. Bowers' copyright and contract claims both rest on Baystate's copying of Mr. Bowers' software. Following the district court's instructions, the jury considered and awarded damages on each separately. This was entirely appropriate. The law is clear that the jury may award separate damages for each claim, "leaving it to the judge to make appropriate adjustments to avoid double recovery." Britton v. Maloney, 196 F.3d 24, 32 (1st Cir. 1999) (citing Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447, 451 n.3, 122 L. Ed. 2d 247, 113 S. Ct. 884 (1993)); see also Data Gen. Corp. v. Grumman Sys. Support Corp., 825 F. Supp. 340, 346 (D. Mass. 1993) ("So long as a plaintiff is not twice compensated for a single injury, a judgment may be comprised of elements drawn from separate . . . remedies."), aff'd in relevant part, 36 F.3d 1147 (1st Cir. 1994). In this case, the breach of contract damages arose from the same copying and included the same lost sales that form the basis for the copyright damages. The district court, therefore, did not abuse its discretion by omitting from the final damage award the duplicative copyright damages. Because this court affirms the district court's omission of the copyright damages, this court need not reach the merits of Mr. Bowers' copyright infringement claim.

B.

Turning now to the patent counts, patent claim language defines the scope of the invention. SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 1121, 227 U.S.P.Q. 577, 586 (Fed. Cir. 1985) (en banc). As a general rule, claim language carries the ordinary meaning of the

words in their normal usage in the field of invention. Toro Co. v. White Consol. Indus., 199 F.3d 1295, 1299, 53 U.S.P.Q.2d 1065, 1067 (Fed. Cir. 1999). Nevertheless, the inventor may act as his own lexicographer and use the specification to supply implicitly or explicitly new meanings for terms. Markman v. Westview Instruments, Inc., 52 F.3d 967, 979-80, 34 U.S.P.Q.2d 1321, 1330 (Fed. Cir. 1995) (en banc), aff'd 517 U.S. 370, 134 L. Ed. 2d 577, 116 S. Ct. 1384 (1996). Thus, to help determine the proper construction of a patent claim, a construing court consults the written description, and, if in evidence, the prosecution history. Id. A claim construction that excludes from its scope a preferred embodiment "is rarely, if ever, correct and would require highly persuasive evidentiary support." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583, 39 U.S.P.Q.2d 1573, 1578 (Fed. Cir. 1996).

As described previously, Mr. Bowers' invention claims a template that simplifies operation of a CAD program. A CAD program, such as CADKEY, comprises numerous commands accessible to the user in nested menus many layers deep. For example, CADKEY includes a variety of main menus, such as CREATE and TRANSFORM. Each main menu, in turn, offers many different selections. These options provide additional menus with further selection possibilities, or working functions. The CREATE main menu of CADKEY Version 3.02 is representative. A portion of that menu structure is shown below, where asterisks indicate material omitted for brevity:



In this menu structure, menu items indicated in italicized type represent working functions, while all others represent additional menus simply providing more menu options. For example, "Line" is a sub-menu of CREATE. Selection of "Line" leads to a variety of menu items including the sub-sub-menu "Endpts" and the working function "Angle." "Endpts," in turn, leads to a variety of working functions such as "Cursor" and "Point."

The '514 patent describes a template that presents a single visual representation of many of the available CAD program commands. Mr. Bowers asserts claim 1, the only independent claim:

> 1. In a computer system including a central processing unit having a keyboard entry station with a plurality of keys for

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data entry and a pointing device station having a pointer with at least one pointer button for data entry and responsive to positionable movement of said pointer, and including system operating functions having successive layers of a main menu of selectable group functions and [a plurality of sub-levels of sub-menus] successive series of a first layer of sub-menus, and at least a second sub-layer of sub-menus having selectable group sub-functions, accessible by successive entries on said keyboard or said pointer to select an ultimate working function, the improvement comprising:

(a) a template for use with said pointing device;

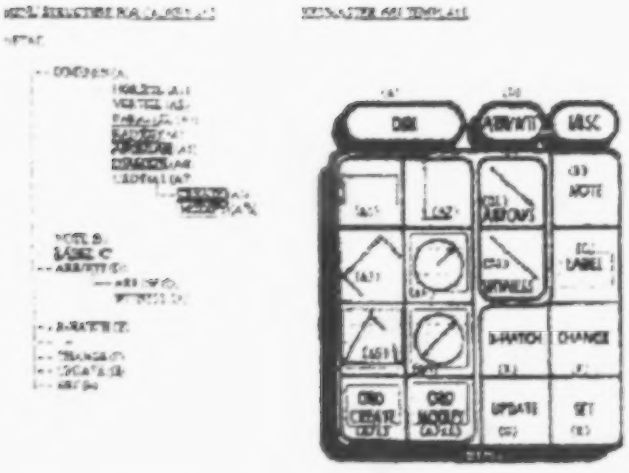
(b) indicia arranged on the template and located in a plurality of groups, one group of each corresponding to one predetermined, selectable item of said main menu and all said indicia in a respective group bearing a common group identifying characteristic;

(c) at least a second plurality of indicia, each of which corresponds to a predetermined selectable item of a sub-menu corresponding to an item of said main menu;

(d) means securing said templates in a fixed orientation to said tablet whereby said pointing device can select a working function with a single movement of the said button.

U. S. Patent No. B1 4,933,514, col. 1, l. 25 to col. 2, l. 19. The reissued claim's altered language is not at issue in this appeal.

Figs. 3A-D of the '514 patent illustrate a template according to claim 1 and configured to operate with CADKEY. That template is illustrated below as a composite of Figs. 3A-D. The template includes a variety of indicia that represent selected items from the CADKEY menus. For example, the template includes the main-menu indicia "CREATE" (middle) and "TRANSFORM" (lower-right corner). In turn, other indicia are associated with those main-menu indicia (e.g., using location and color) to form main-menu indicia groups. To illustrate, the "CREATE" main-menu indicia group includes the sub-menus "Lines," "Arcs," "Circ," "Points," "Plygns," and "Splines" (sub-menu indicia), but not the remaining "CREATE" sub-menus "Polyin," "Fillet," "Chamfer," or "Conic," see supra at pp. 15-16. In the template, each of the "CREATE" group's sub-menus has working functions in columns below. The working function indicia represent working functions dependent from the relevant sub-menu. For example, the working function indicia associated with the "Lines" sub-menu fall below that heading and include "Tan:ArcPt," "Tan:2Arcs," "Horz," "Vert," and "Horz/Vert."



The parties dispute the meaning of paragraphs b, c, and d of claim 1. This court agrees generally with the district court's construction of paragraphs b and c. With respect to paragraph d, however, the district court erred in its construction. Under a correct construction of that paragraph, no reasonable jury could find that Baystate infringes claim 1. In view of this court's holding of noninfringement, this court does not reach the alternative ground for challenging the district court's judgment based on patent invalidity.

The district court construed paragraph b: "at least two groups must appear on a template where one group corresponds to a main menu item and the other corresponds to another main menu item." In other words, the template must include at least two main-menu indicia groups, such as the "CREATE" and "TRANSFORM" groups described above. Baystate argues, nevertheless, that the reexamination history requires that "every group of the template must correspond to a main menu item." The history of reexamination indicates otherwise.

During reexamination, Mr. Bowers noted that each group of the Keymaster template did not correspond to a main-menu item. With respect to those groups that did correspond to main-menu items, Mr. Bowers argued that those did not satisfy claim paragraphs c and d. Mr. Bowers thus admitted that a set of Keymaster template groups satisfy claim paragraph b, but he then distinguished them in view of paragraphs c and d. Specifically, Mr. Bowers stated: "Each of the groups of the Keymaster template does not correspond to one selectable item of the main menu of the Cadkey system." Baystate would read this statement to mean that the claim's reference to a "plurality" of groups on the template encompasses all groups on the template. In other words, Baystate reads "each" in several of Bowers' statement to mean "all." The claim, however, uses the term "plurality," meaning "comprising, or consisting of more than one." The Oxford English Dictionary (2d ed. 1989). Thus, Bowers' references to "each" refers to the "at least two groups" required by the claims. To read Bowers statements too strictly would exclude from claim scope the preferred embodiment of the '514 patent--a disfavored result. That embodiment includes, for example, a group "SET" that is not associated with a CADKEY main-menu item. In sum, this court agrees with the district court's interpretation of paragraph b.

With respect to paragraph c, the district court interpreted claim 1 to require "that at least two indicia contained in the second set of indicia contained within one of the at least two groups of indicia described in claim 1(b) must correspond to an item of the first submenu of the main menu item to which the group corresponds." In other words, at least one of the main-menu indicia groups paragraph b requires must include at least two indicia associated with a sub-menu of the main-menu. '514 patent at col. 4, ll. 9-16. The

specification supports the trial court's interpretation. In the preferred embodiment, for example, the sub-menu "Lines" under the "CREATE" group defines two columns of indicia representing working functions. Id. at col. 4, ll. 9-16. The sub-menu indicium "Lines" and the working functions in columns below are associated with the "Lines" sub-menu of the "CREATE" main-menu, thus satisfying the claim requirement. In sum, paragraph c requires that at least one of the main-menu indicia groups include at least two indicia associated with the same sub-menu of the main-menu.

With respect to paragraph d, the district court held "that the single movement of the pointing device's button can, but need not, select a working function." Properly construed, however, this limitation requires that each of the indicia associated with the sub-menu of a main-menu group must represent a working function accessible with a single movement of the pointer button (e.g., as opposed to access through further selection via a drop-down menu). Using the "Lines" sub-menu as an example, see Figs. 3A-D supra at p. 18, paragraph d requires that all indicia below that sub-menu must represent working functions. The specification and the reexamination history support this construction of paragraph d.

As just described with respect to the "Lines" sub-menu, the '514 patent discloses a sub-menu with one or more columns of working functions. '514 patent at col. 4, ll. 9-16. This arrangement supplies the second plurality of indicia required by paragraph c. Id. at col. 4, ll. 9-16. The specification discloses expressly that all indicia associated with sub-menus (i.e., "Line," "Arcs," etc.) of the "CREATE" group represent working functions. * Id. at col. 4, ll. 24-26. For example, two columns fall beneath the "Lines" sub-menu within the "CREATE"

group. Each indicium in those columns, e.g., "Tan:ArcPt," "Tan:2Arcs," "Horz," "Vert," and "Horz/Vert," represents a working function that depends from the "Lines" sub-menu. Id. at col. 4, ll. 24-65 ("The individual items appearing in the rows of each of these columns [defined by the sub-menu indicia] represent an ultimate working function"). In other words, consistent with this court's construction, all the indicia associated with the sub-menus of the "CREATE" group represent working functions.

The reexamination history also precludes this court from adopting a broader construction. Specifically, with respect to "working functions," the claim language recites only that the "pointing device can select a working function with a single movement of the said button." During the reexamination proceedings, Mr. Bowers argued that the Keymaster template did not satisfy this limitation because that template's "DETAIL" and "TRANSFORM" main-menu groups included indicia that did not represent working functions. With reference to the "DETAIL" group more specifically, that group includes sub-menus "Dim," and "Arr/Wit," and an additional indicium "Misc." The Keymaster "DETAIL" group and relevant portions of the CADKEY 3.02 menu structure are shown in the figure below. In that figure, working functions are highlighted.

CREATE

Line

Endpts

Cursor
Point
Endent
Center
Intrsc } (Position menu)
Alongl
Polar
Delta
Key – In

String

(Position menu)

Parlprp

• • •

Tangent

Arc Pt
2 Arcs

Hrz/vrt

Horizti
Vertict
Both

Angle

Rectang

• • •

N-Gon

Mesh

Ruled

General

Arc

• • •

Circle

• • •

Point

• • •

Polyln

• • •

Fillet

• • •

Chamfer

• • •

Conic

• • •

Polygon

• • •

Spline

• • •

The indicia "Dim," "Arr/Wit," and "Misc" each have a group of indicia underneath them. However, as shown above, none of those indicia groups includes only

working functions. With respect to the group "Misc," Mr. Bowers made clear that the indicia "Note," "X-Hatch," "Change," and "Set," all represented additional menus rather than working functions. For example, selecting the indicium "X-Hatch" simply presents an opportunity to select the actual working cross-hatching functions of "Brick," "Steel," "Copper," "Alloys," "Aluminum," "Rubber," or "Marble" (not shown in the menu structure above). A user simply cannot access these cross-hatching functions through a single movement of the pointing device button using the Keymaster template. In like manner, as shown in the figure, the indicia groups associated with "Dim" and "Arr/Wit," respectively, also include indicia that do not represent working functions.

After claim construction, the infringement inquiry shifts to a comparison of the claim with the allegedly infringing device. Kemco Sales, Inc. v. Control Papers Co., 208 F.3d 1352, 1359, 54 U.S.P.Q.2d 1308, 1312 (Fed. Cir. 2000). To prove infringement, the patentee must show that the accused device contains each limitation of the asserted claim, Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1211, 48 U.S.P.Q.2d 1010, 1014 (Fed. Cir. 1998), or an equivalent of each limitation, Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40, 137 L. Ed. 2d 146, 117 S. Ct. 1040 (1997). This comparison is a question of fact. Bai v. L&L Wings, 160 F.3d at 1353. Hence, a change in the claim construction at the appellate level generally necessitates a remand to the district court to consider new factual issues unless the record on appeal supplies substantial evidence to support the jury verdict under the new claim construction. See Fed. R. Civ. P. 50.

On the issue of literal infringement, Mr. Bowers relies upon the accused templates' "CREATE" and "TRANSFORM" groups to satisfy the limitations of claim

1. With respect to paragraph d, Mr. Bowers proffered evidence showing only that each of the "CREATE" and "TRANSFORM" groups included some, but not all, indicia representing working functions. Moreover, the record contained undisputed evidence showing that the limitations of paragraph d are not met.

Specifically, Baystate's director of MIS (management information systems), John Pentecost, produced reports comparing menu trees of the relevant versions of CADKEY with corresponding versions of Baystate's accused Draft-Pak templates. That unrebutted evidence shows that each of the sub-menus under the "CREATE" group includes an associated dependent indicium--e.g., "End Pts" depending from "Line"; "3Pts" depending from "Arc"; "Ctr + Edge" depending from "Circle"; "Pos" depending from "Point"; "String" depending from "Polyin"; "5 Cond" depending from "Conic"; "Rect" depending from "Polygon"; and "2D Cubic" depending from "Spline"--that activates menus rather than a working function. Moreover, that evidence shows that none of the "TRANSFORM" group indicia activates working functions. This court, therefore, determines that the record shows that the '514 patent is not literally infringed. Because Mr. Bowers did not assert infringement under the doctrine of equivalents, this court does not consider that issue.

In sum, this court perceives no basis upon which a reasonable jury could find that Baystate's accused templates infringe claim 1 of the '514 patent. Hence, this court reverses the district court's denial of Baystate's motion for JMOL of non-infringement.

CONCLUSION

Because substantial evidence supports the jury's verdict

that Baystate breached its contract with Mr. Bowers, this court affirms that verdict. This court holds also that the district court did not abuse its discretion in omitting as duplicative copyright damages from the damage award. Because no reasonable jury could find that Baystate infringes properly construed claim 1, this court reverses the verdict of patent infringement.

COSTS

Each party shall bear its own costs.

AFFIRMED-IN-PART, REVERSED-IN-PART

Footnotes

*Bowers urges in a conclusory fashion that this construction would render the preferred embodiment outside the scope of the claims, a result that requires "highly persuasive evidentiary support," Vitronics Corp. v Conceptronic, Inc., 90 F.3d 1576, 1583, 39 U.S.P.Q.2d 1573, 1578 (Fed. Cir. 1996). Bowers has not established his premise (that the preferred embodiment is outside the claim scope), and even if he had, the reexamination history provides just that highly persuasive evidentiary support, as this court explains below.

91-40079

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

HAROLD L. BOWERS
(doing business as HLB Technology),
Plaintiff,

v.

BAYSTATE TECHNOLOGIES, INC.,
Defendant.

JUDGMENT IN A CIVIL CASE

GORTON, D.J.

Jury Verdict. This action came before the court for a trial by jury. The issues have been tried and the jury has rendered its verdict.

Decision by the Court. This action came to trial or hearing before the Court. The issues have been tried or heard and a decision has been rendered.

IT IS ORDERED AND ADJUDGED: That judgment be entered in favor of the plaintiff Harold L. Bowers, *dlbla* HLB Technology against the defendant Baystate Technologies, Inc. in the amount of $4,064,002.00 plus pre-judgment interest in the amount of $1,206,940.00 for a total judgment of $5,270,942.00.

APPROVED:
Nathaniel M. Gorton
U.S. District Judge

Dated: 9/18/00

(By) Deputy Clerk
SONY ANASTAS. CLERK

NOTE: The post judgment interest rate effective this date is 6.241 %.

91-40079

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

HAROLD L. BOWERS
(doing business as HLB Technology),
Plaintiff,

v.

BAYSTATE TECHNOLOGIES, INC.,
Defendant

10/2/2000

BAYSTATE TECHNOLOGIES, INC.'S POST-JUDGMENT MOTIONFOR JUDGMENT AS A MATTER OF LAW ON BREACH OF CONTRACT AND COPYRIGHT CLAIMS

Pursuant to Fed. R. Civ. P. 50(b), Baystate Technologies, Inc. ("Baystate") hereby requests that this Court grant judgment as a matter of law in Baystate's favor on all contract and copyright claims brought by plaintiff, Harold L. Bowers ("Bowers"). As grounds for this motion, Baystate states that it is entitled to judgment as a matter of law on Bowers' contract and copyright claims with respect to the GD&T module of its accused Draft-Pak and Cadkey software programs, and with respect to Baystate's Draft-Pak templates. Further, Bowers' breach of contract claims are preempted by the Copyright Act and barred by the statute of limitations. In support of this motion, Baystate relies upon its Memorandum in Support of its Motion for Judgment as a Matter of Law on Breach of Contract and Copyright Claims and the Appendix in Support of Baystate's Post-Judgment Motions, filed herewith.

fn1The caption oF this pleading has been modified in accordance with the Court's Order of May 12. 2000.

Motion denied: NM Gorton, USDJ 1/10/01

91-40079

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

HAROLD L. BOWERS
(doing business as HLB Technology),
Plaintiff,

v.

BAYSTATE TECHNOLOGIES, INC.,
Defendant.

10/2/2000

BAYSTATE TECHNOLOGIES, INC.'S POST-JUDGMENT ALTERNATIVE MOTION FOR A NEW TRIAL ON BREACH OF CONTRACT AND COPYRIGHT CLAIMS

Pursuant to Fed. R. Civ. P. 59(a), Baystate Technologies, Inc. ("Baystate") hereby requests that, in the event that the Court does not grant Baystate's motions for judgment as a matter of law on the contract and copyright claims brought by plaintiff, Harold L. Bowers ("Bowers"), filed herewith, this Court grant Baystate a new trial on Bowers' claims for breach of contract and copyright infringement. Baystate is entitled to a new trial on Bowers' claims for breach of contract and copyright infringement: (1) due to legal error in the jury instructions; (2) due to legal error in rulings on the admission of evidence and improper offers of irrelevant and inflammatory evidence which prejudiced the jury; and (3) because the jury's verdict was against the weight of the evidence. Each of these grounds presents an independent basis for a new trial.

fn1The caption of this pleading has been modified in accordance with the Court's Order of May 12. 2000. .

Motion denied: NM Gorton, USDJ 1/10/01

91-40079

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

HAROLD L. BOWERS
(doing business as HLB Technology),
Plaintiff,

v.

BAYSTATE TECHNOLOGIES, INC.,
Defendant.

VERDICT

Patent Infringement

Question 1: Did Harold L. Bowers d/b/a HLB Technology, Inc. ("Bowers") prove that the Draft-Pak template of Baystate Technologies, Inc. ("Baystate") infringes the Bowers '514 patent?

Answer: Yes (9) No (0)

If you answer Question #1 YES, proceed to Question #2.
If you answer Question #1 NO, proceed to Question #5.

Willful Infringement

Question 2: Did Bowers prove, by clear and convincing evidence, that Baystate's infringement of the '514 patent was willful?

Answer: Yes (9) No (0)

Patent Validity/Enforceability

Question 3: Did Baystate prove, by clear and convincing evidence, the invalidity or unenforceability of the '514 patent?

Answer: Yes (0) No (9)

If you answer Question #3 YES, indicate for what reason(s find the '514 patent to be invalid or unenforceable:

Anticipation	_____
Obviousness	_____
"On Sale"	_____
"Public Use"	_____
Inequitable Conduct	_____
Patent Misuse	_____

If you answered Question #1 YES and Question #3 NO, proceed to Question #4. Otherwise, proceed to Question #5.

Patent Damages

Question 4: Did Bowers prove that he is entitled to recover damages based upon lost profits?

Answer: Yes (9) No (0)

If you answer Question #4 YES, proceed to Question #4A. If you answer Question #4 NO, proceed to Question #4B.

Question 4A: Based upon lost profits, state the amount (in words and numbers) of damages, if any, that you award to Bowers to compensate for lost profits of the

'514 patent:

Two-hundred ten thousand three hundred twenty seven 00/100 Dollars. (words)
$210,327.00(numbers)

Question 4B: Based upon a reasonable royalty, state the amount (in words and numbers) of damages, if any, that you award to Bowers:

Twenty-two thousand six hundred fifty Dollars. (words)
$22,650.00(numbers)

Copyright Infringement

Question 5: Did Bowers prove that Baystate infringed a valid copyright owned by Bowers? Please answer separately with respect to each of the following Baystate products:

Answer:

Draft-Pak Template	Yes (9) No (0)
Geometric Dimensioning & Tolerencing ("GD&T") Portion of Original Version of Draft-Pak	Yes (9) No (0)
GD&T Portion of Dialog Box Version of Draft-Pak	Yes (9) No (0)
GD&T Portion of Windows Version of Draft Pak	Yes (9) No (0)

If you answer any part of Question #5 YES, proceed to Question #6. If you answer all parts of Question #5 NO, proceed to Question #9.

Willful Copyright Infringement

Question 6: Did Bowers prove that Baystate willfully infringed a valid copyright owned by Bowers?

Answer: Yes (0) No (9)

Actual Copyright Damages

Question 7: State the amount (in words and numbers) of actual damages, if any, you award to Bowers attributable to Baystate's copyright infringement.

One million nine hundred forty-eight thousand eight hundred sixty-nine dollars(words)
$1,948,869(numbers)

Statutory Copyright Damages

Question 8: state the amount (in words and numbers) of statutory damages, if any, you award to Bowers attributable to Baystate's copyright infringement.

Three hundred thousand + 00/100 Dollars(words)
$300,000(numbers)

Breach of Contract

Question 9: Did Bowers prove that Baystate breached an existing contract between Bowers and Baystate?

Answer: Yes (9) No (0)
If you answer Question #9 YES, proceed to Question

#10.
If you answer Question #9 NO, your deliberations are complete.

Contract Damages

Question 10: State the amount (in words and numbers) of damages, if any, you award to Bowers attributable to Bavstate's breach of contract:

Three million eight hundred thirty-one thousand twenty-five Dollars(words)
$3,831,025.00(numbers)

Your deliberations are complete. Report to the clerk that you have reached a verdict.

6/7/2000
Forewoman

01-1108, 01-1109

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

HAROLD L. BOWERS (doing business as HLB Technology),
Plaintiff-Cross Appellant,

v.

BAYSTATE TECHNOLOGIES, INC.,
Defendant-Appellant.

January 29, 2003, Decided
January 29, 2003, Filed

COUNSEL: Frederic M. Meeker, Banner & Witcoff, LTD, of Washington, DC, filed a response for plaintiff-cross appellant. With him on the response were Steve S. Chang, Bradley C. Wright, and Charles W. Shifley.

Robert L. Kann, Bromberg & Sunstein LLP, of Boston, Massachusetts, filed a combined petition for panel rehearing and rehearing for defendant-appellant. Of counsel were Judith R. S. Stern and Erik P. Belt.

Mark A. Lemley, Professor of Law, Boalt Hall School of Law, University of California at Berkeley, of Berkeley, California, filed an amici curiae brief.

OPINION: ON COMBINED PETITION FOR PANEL REHEARING AND REHEARING EN BANC

ORDER

A combined petition for panel rehearing and rehearing en banc having been filed by the Appellant n1, a response thereto having been invited by the court and

filed by the Cross-Appellant, and the petition for panel rehearing having been referred to the panel that heard the appeal, and thereafter the petition for rehearing en banc, response and amici curiae brief having been referred to the circuit judges who are in regular active service,

Upon consideration thereof,

IT IS ORDERED THAT:

(1) The petition for panel rehearing is granted.

(2) The petition for rehearing en banc is denied.

(3) In view of the panel's revised opinion, the court vacates the panel's judgment and original opinion entered August 20, 2002, Harold L. Bowers v. Baystate Technologies, Inc., 302 F.3d 1334 (Fed. Cir. 2002).

January 29, 2003

----------Footnotes----------

n1 Professor Mark A. Lemley filed an amici curiae brief in support of the petition.

CONSTITUTIONAL PROVISIONS AND STATUTES

The Supremacy Clause of the United States Constitution. U.S. Const., art. VI, cl. 2:

> This Constitution and the Laws of the United States which shall be made in Pursuance thereof; and all treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

The Patent and Copyright Clause of the United States Constitution. U.S. Const., art. I, § 8, cl. 8:

> The Congress shall have the Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries . . . .

The Copyright Act, 17 U.S.C. § 102, entitled "Subject matter of copyright: In general":

> (a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:
>
> (1) literary works;
>
> (2) musical works, including any accompanying words;
>
> (3) dramatic works, including any accompanying music;
>
> (4) pantomimes and choreographic works;
>
> (5) pictorial, graphic, and sculptural

works;

(6) motion pictures and other audiovisual works;

(7) sound recordings; and

(8) architectural works.

(b) In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

The Copyright Act, 17 U.S.C. § 107, entitled "Limitations on exclusive rights: Fair use":

> Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—
>
> (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
>
> (2) the nature of the copyrighted work;
>
> (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
>
> (4) the effect of the use upon the potential market for or value of the copyrighted work.

The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.

The Copyright Act, 17 U.S.C. § 117, entitled "Limitations on exclusive rights: Computer programs":

(a) MAKING OF ADDITIONAL COPY OR ADAPTATION BY OWNER OF COPY. – Notwithstanding the provisions of section 106, it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided:

(1) that such a new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or

(2) that such new copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.

(b) LEASE, SALE, OR OTHER TRANSFER OF ADDITIONAL COPY OR ADAPTATION. – Any exact copies prepared in accordance with the provisions of this section may be leased, sold, or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale, or other transfer of all rights in the program. Adaptations so prepared may be transferred only with the authorization of the copyright owner.

(c) MACHINE MAINTENANCE OR REPAIR. – Notwithstanding the provisions of section 106, it is not an infringement for the owner or lessee of a machine to make or authorize the making of a copy of a computer program if such copy is made solely by virtue of the activation of a machine that lawfully contains an authorized copy of the computer program, for purposes only of maintenance or repair of that machine, if –

(1) such new copy is used in no other manner and is destroyed immediately after the maintenance or repair is completed; and

(2) with respect to a computer program or part thereof that is not necessary for that machine to be activated, such program or part thereof is not accessed or used other than to make such new copy by virtue of the activation of the machine.

(d) DEFINITIONS. – For purposes of this section –

(1) the "maintenance" of a machine is the servicing of the machine in order to make it work in accordance with its original specifications and any changes to those specifications authorized for that machine; and

(2) the "repair" of a machine is the restoring of the machine to the state of working in accordance with its original specifications and any changes to those specifications authorized for that machine.

The Copyright Act, 17 U.S.C. § 301, entitled "Preemption with respect to other laws":

(a) On and after January 1, 1978, all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106 in works of authorship that are fixed in a tangible medium of expression and come within the subject matter of copyright as specified by sections 102 and 103, whether created before or after that date and whether published or unpublished, are governed exclusively by this title. Thereafter, no person is entitled to any such right or equivalent right in any such work under the common law or statutes of any State.

(b) Nothing in this title annuls or limits any rights or remedies under the common law or statutes of any State with respect to –

(1) subject matter that does not come within the subject matter of copyright as specified by sections 102 and 103, including works of authorship not fixed in any tangible medium of expression; or

(2) any cause of action arising from undertakings commenced before January 1, 1978;

(3) activities violating legal or equitable rights that are not equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106; or

(4) State and local landmarks, historical preservation, zoning, or building codes, relating to

architectural works protected under section 102(a)(8).

(c) With respect to sound recordings fixed before February 15, 1972, any rights or remedies under the common law or statutes of any State shall not be annulled or limited by this title until February 15, 2067. The preemptive provisions of subsection (a) shall apply to any such rights and remedies pertaining to any cause of action arising from undertakings commenced on and after February 15, 2067. Notwithstanding the provisions of section 303, no sound recording fixed before February 15, 1972, shall be subject to copyright under this title before, on, or after February 15, 2067.

(d) Nothing in this title annuls or limits any rights or remedies under any other Federal statute.

(e) The scope of Federal preemption under this section is not affected by the adherence of the United States to the Berne Convention or the satisfaction of obligations of the United States thereunder.

(f) (1) On or after the effective date set forth in section 610(a) of the Visual Artists Rights Act of 1990, all legal or equitable rights that are equivalent to any of the rights conferred by section 106A with respect to works of visual art to which the rights conferred by section 106A apply are governed exclusively by section 106A and section 113(d) and the provisions of this title relating to such sections. Thereafter, no person is entitled to any such right or

equivalent right in any work of visual art under the common law or statutes of any State.

(2) Nothing in paragraph (1) annuls or limits any rights or remedies under the common law or statutes of any State with respect to –

(A) any cause of action from undertakings commenced before the effective date set forth in section 610(a) of the Visual Artists Rights Act of 1990;

(B) activities violating legal or equitable rights that are not equivalent to any of the rights conferred by section 106A with respect to works of visual art; or

(C) activities violating legal or equitable rights which extend beyond the life of the author.

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A. That is one of the points.

Q. Okay. So one of the points of evidence that you have that Bay State is copying also indicates that you are copying; isn't that right?

A. It does not.

Q. Sir, didn't you just say that about a minute ago, that is evidence of your copying?

A. Only in context of the overall selection and arrangement of my software.

Q. I'm not talking about context, sir. We have to take it in pieces. You just said before that the fact that there is this four-part menu, None, MMC, LMC, and RFS, and particularly because you don't see the word "none" in then ANSI standard, that that having been reproduced in your program, which is subsequent, that is evidence of copying, isn't it, sir? That's what you just testified to?

A. In the overall selection and arrangement of my software, yes, and the fact that it's in the same order as what appears in my software.

Q. All right, so that's the first piece of evidence that you copied GTSG. Now, -

A. I would disagree.

Q. – other than what appears in the menu and what appears in the prompt text, in your program and GTSG, everything else is provided by Cadkey; isn't that right?

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A. The history line is provided by the software, by the third-party software, my software and yours.

Q. Do you see a history line here, sir?

A. That's my first version.

Q. Do you see a history line there, sir?

A. There is a history line. It has nothing in it, because my first version did not support that.

Q. All right, now, getting back to my question, other than what we can see - this is what the user sees when he uses the programs, right? These are the screens that they see when they use the program, right? You've already testified?

A. Yes.

Q. Okay. So in the upper left-hand corner we have the menu picks, and at the bottom we have these short few words. That's the prompt text, right?

A. Correct.

Q. Everything else we see there is provided by the underlying program Cadkey, correct?

A. There's only three areas of the program – three areas of that screen that the programmer had access to, the history line, the menu, and the prompt text.

Q. Right. We don't see a history line there, do we?

A. And you could also place information in the graphics display screen as Mr. Spencer did.

MR. KANN: Your Honor, I ask that that be stricken.

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he refers to the standard.

Q. Well, why don't you take a look at your deposition transcript, sir, on Page 67, Lines 1 through 4.

A. I'm sorry, what page?

Q. Page 67. Isn't it true, sir, that at your deposition you did agree that ANSI requires or determines the order in which the symbols should appear and what the meaning of each portion of it is?

THE COURT: Wait a minute. He can't follow you because he doesn't have the page.

A. I don't know where I am.

Q. Page 67 of your deposition.

A. Which lines?

Q. Lines 1 through 4.

Q. At your deposition you didn't like the word "governed," but you said that ANSI ascribes the order to which the symbols should appear and what the meaning is of each portion of it. You would still agree with it, wouldn't you?

A. I think the word I used there is probably "describes" the order.

Q. Is what?
A. Instead of the word "ascribes," I probably used the word "describes."

Q. And you would also agree, sir, that filling out a feature control frame going from left to right is the logical

59

floppy disk and copy from one disk to another.

Q. Right. You don't have any evidence whatsoever that

Mr. Bean had access to your source code, do you?

A. I doubt that he did.

Q. And if he didn't have access to your source code, he couldn't have copied your source code, right?

A. Only to the extent that he copied the prompts into it.

Q. Right. In other words, if your user interface says "Enter per unit tolerance," then of course that's going to be reflected in the source code, "Enter the per unit tolerance," but that does not mean that you're actually accusing Mr. Bean of having gone into your source code and copied the coding? Isn't that right?

A. He probably could have – could have – if you take the compiled code, he could have looked at the prompts in the compiled code of the text editor.

Q. But you haven't made any comparison of source code to make an allegation that Mr. Bean copied your

source code? Your allegation is that because "Enter per unit tolerance" is in the prompt text, that the fact that it's reflected in the source code, that's what you talk about in terms of the copying, the "Enter per unit tolerance"; isn't that right?

A. Well, I have done a comparison of source code, and there is – including just a few lines around the prompt text, and they are very similar.

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Q. So when you see "getstr enter per unit tolerance," that would suggest to you that he's actually been copying the source code?

A. Not copied as if you would do a cut-and-paste. It would be like reverse engineering copying.

MR. KANN: May I approach the witness, your Honor?

THE COURT: Yes.

Q. Now, sir, I've handed you 1348-B which is another excerpt from the Exhibit 1348 which you offered yesterday, and can you confirm that that's more of your source code?

A. Well, this apparently – it appears to be source code I've written, but it includes source code which is not the subject of this case. It's got the fastener source code.

Q. Okay. In any case, though, do you see the Bates numbers on the bottom, the HX 2599 through HX 2667? That's part of Bowers' Exhibit 1348. We've just broken this out as a separate portion. Do you see that?

A. You're talking about 1348-B?

Q. That's what you have.

A. Okay, but this does contain source code that's for a nuts and bolts program.

MR. KANN: Your Honor, we move into evidence Exhibit 1348-B.

MR. MEEKER: No objection.

THE COURT: It will be admitted, 1348-B.

189
Incorporated.

Q. Has Bay State done any work to upgrade the Cadkey product since it's purchased it?

A. Yes, quite a bit.

Q. Has Bay State received any industry awards?

A. Yes, we have.

Q. I place before you Exhibit 337 and ask you if you can identify the document.

A. Yes. That's a periodical that people in our – in the CAD industry. It's called Engineering Automation Report, and this is an issue December 1998.

Q. Okay. And does it report on an award to Bay State Technologies?

A. Yes.

Q. Without mentioning it?

MR. KANN: Your Honor, we move Exhibit 337.

MR. MEEKER: Objection, your Honor.

THE COURT: Grounds?

MR. MEEKER: It contains hearsay. It's no more than a publication.

THE COURT: Sustained.

Q. Can you describe any of the awards which have been given to Bay State over the years?

A. Yes. We – we received the Honesty and Decency Award from the Engineering Automation Report. We've received

0190
Product of the Year Award from NASA Tech Briefs which is –

Q. Let's take them one at a time. What was the first one?

A. The first award was the Honesty and Decency Award.

Q. And what was that for?

A. It's basically a vendor recognition award given to companies in the – various companies in the CAD field,

and so they develop different categories depending on the – on the company involved.

Q. What was the next award that Bay State received?

A. The next chronologically I'm not sure but –

Q. Well, can you name another award that Bay State has received?

A. We received the NASA Tech Briefs Product of the Year Award from NASA Tech Briefs magazine.

Q. And what was that for?

A. That was for – I believe for our Cadkey release Cadkey 97.

Q. I've handed you Exhibit 5. Can you tell me what it depicts?

A. Yes. It shows Draft-Pak Version 4 Release 3 with – in two different modes. The icon mode off is on the top and the icon mode on is on the bottom.

Q. And is that Draft-Pak Version 4 Release 3?

A. Yes, it is.

8-4
(The jury enters the courtroom.)

THE CLERK: United States District Court for the District of Massachusetts sitting in Worcester, the Honorable Nathaniel Gorton residing. The court is now open, you may be seated.

THE COURT: Good morning jurors. We're ready to proceed with the direct examination of Mr. Bean. He will be returned to the stand.

MR. KANN: Thank you, Your Honor.

THE COURT: Good morning, Mr. Bean, you're reminded you remain under oath. Mr. Kann, you may continue.

ROBERT BEAN

CONTINUED DIRECT EXAMINATION BY MR. KANN

Q. Good morning, Mr. Bean.

A. Good morning.

Q. When you started Bay State Technologies, where did you reside?

A. At my home, which is in Worcester - which was in Worcester, 30 West View Road in Worcester, near Worcester State College.

Q. And where do you reside now?

A. In Shrewsbury.

Q. And what was your -- the first product that you developed at Bay State you testified yesterday to was Draft-Pak Release 1, I believe?

8-5

A. That's correct.

Q. And what was the purpose of this program?

A. The purpose of the program was to put machineries handbook type things at the disposal of design engineers that were using Cadkey, so it automated what we call features, fasteners, mechanical elements, and drafting symbols.

Q. And it had a GD&T module?

A. Yes, it did.

Q. And did the Draft-Pak Release 1 GD&T module make all of the ANSI-required standards standard feature control frames?

A. Yes, it did.

Q. And were you granted a copyright on Draft-Pak Release 1?

A. Yes, I was.

MR. KANN: May I approach the witness, Your Honor?

THE COURT: Yes.

Q. I've placed before you Exhibit 329. Can you identify it?

A. Yes. That's the certificate of registration of the copyright for Draft-Pak Version 3.5 Release 1.

MR. KANN: Your Honor, we move Exhibit 329.

THE COURT: It will be admitted.
(Exhibit No. 329 marked and received into evidence.)

MR. KANN: May we publish it?

8-6

THE COURT: It may be published.

Q. Now, did Bay State ever create another version of Draft-Pak?

A. Yes, we did.

Q. And which version was next?

A. Draft-Pak Release 2.

Q. And why did you upgrade to Release 2?

A. I believe we upgraded because Cadkey upgraded their software from 3.5, Cadkey 3.5 to Cadkey 4, so we needed to be compatible with it.

Q. And can you compare the module for GD&T and Draft-Pak Release 2 to Draft-Pak Release 1?

A. Yes. It's pretty much identical.

MR. KANN: May I approach the witness, Your Honor?

THE COURT: Yes.

Q. I place before I Exhibit 16 which was admitted into evidence yesterday.

MR. KANN: Your Honor, may I publish a page Exhibit 16, page three?

THE COURT: What is it again?

MR. KANN: It's Exhibit 16, which was admitted into evidence, screen captures of Draft-Pak Release 2.

THE COURT: Yes.

Q. And, Mr. Bean, does Draft-Pak Release 2 create all of the ANSI-required GD&T featured control frames?

8-7

A. Yes, it does. We did have, I believe, one error a symbol, drawing the wrong symbol. But other than that, it created all the ANSI-required GD&T --

Q. And I'm showing on the screen now a page on the screen captures from Draft-Pak Release 2, and you see the featured control frames that Draft-Pak Release 2 was capable of creating?

A. Yes.

Q. And these are ANSI-standard feature control frames; is that correct?

A. Yes, they are.

MR. MEEKER: Could we have a page reference?

THE COURT: Page reference?

MR. KANN: That was page three. Actually, I'm sorry, that was page 79.

Q. And on that page, sir, I notice that true position is

not displayed here, but was that a feature control frame which Draft-Pak Release 2 created?

A. Yes, we had that symbol, yes.

Q. Now, is Draft-Pak Release 2 and Draft-Pak Release 1 add-ons to other software?

A. No. Well, Cadkey, yes, they add on to Cadkey.

Q. And was Bay State granted a copyright certificate for Draft-Pak Release 2?

A. Yes, we were.

8-17

A. Yes.

Q. What's the purpose of the Geodraft program as you understand it?

A. The Geodraft program is a geometric tolerancing program that creates geometric tolerancing symbols for Cadkey.

Q. Does it make all the same ANSI-required feature control frames as Draft-Pak Release 1 and 2?

A. Yes, I believe it does.

Q. And which software is Geodraft an add-on to?

A. The Cadkey software.

MR. KANN: Your Honor, I'd like to approach the

witness.

THE COURT: Yes.

Q. I've placed before you Exhibit 14, which was placed in evidence yesterday, which is the screen captures for Geodraft. Do you see that?

A. Yes, I do.

MR. KANN: Your Honor, I'd like to place one of those screen captures up on the screen.

THE COURT: Yes.

MR. MEEKER: Could we have a page reference?

THE COURT: Page reference, please.

Q. Yes, that's page 61. And are these the feature control frames which Geodraft is capable of creating which we

8-25

Bowers a license in Draft-Pak Release 1 or Draft-Pak Release 2?

A. No, we did not.

Q. After Bay State developed Draft-Pak Release 1 and 2, is it true, sir, that the product was then upgraded again?

A. Yes, it is.

Q. And why did you upgrade from Draft-Pak Release 2

to the next upgrade?

A. We always upgrade our software every year, so it was a standard upgrade, I believe.

Q. And what was the next upgrade from Draft-Pak Release 2?

A. It was Draft-Pak Release 3.

Q. Release – I'm sorry.

A. Version 4 Release 3. Draft-Pak Version 4 Release 3. We kind of used the version of Cadkey that it ran with, which was Cadkey 4, with our own release number, so it was kind of confusing.

Q. And you understand that Mr. Bowers has alleged that the GD&T module of Draft-Pak Release 3 was copied by you from Geodraft, do you understand that allegation?

A. Yes, I do.

Q. Is that true?

A. No, it's not.

Q. Other than the GD&T module of Draft-Pak, how many

A. Well, mainly the ANSI standard book, the geometric tolerancing standard book, and there were other texts on geometric tolerancing by Lowell Foster, who's an author who writes a lot of geometric tolerancing.

We had other books as well as I believe a video training class on geometric tolerancing from the Society of Manufacturing Engineers.

MR. KANN: May I approach the witness, Your Honor?

THE COURT: Yes.

Q. I place before you Exhibit 1017, which is in evidence. It's the ANSI standard. Can you tell me how you made use of that in relation to upgrading Draft-Pak Release 3?

A. Well, the standard was used to switch to a rule-based system from a pick-and-choose system. The program had to follow the rules of ANSI or -- in order to create a symbol to specification. So the ANSI standard was used for each symbol or each tolerance frame, and the valid options that were permissible under ANSI were presented to the user in primarily left-to-right order.

MR. KANN: May I approach the witness, Your Honor?

THE COURT: Yes.

Q. I place before you Exhibit 266 and ask if you can identify that?

A. Yes. This is the Geometric Tolerancing and

Q. And is it the registration that was granted to Bay State for that Draft-Pak Release 3?

A. Yes.

MR. KANN: Your Honor, we move Exhibit 325.

THE COURT: It will be admitted.

(Exhibit No. 325 marked and received into evidence.)

MR. KANN: May I approach the witness, Your Honor?

THE COURT: Yes.

Q. Okay. I've placed before you Exhibit 9, which is in evidence. Can you identify it?

A. Yes. It's an exhibit showing four different geometric -- rule-based geometric dimensioning and tolerancing programs sort of all running side-by-side.

MR. KANN: Your Honor, may I publish Exhibit 9?

THE COURT: Yes.

MR. KANN: I'd like to put page one up on the screen.

Q. And can you point out for us again the four programs which are -- the user interfaces for which are depicted on the first page of Exhibit 9?

A. The one in the upper left-hand corner is Geodim Version 1, which is running in AutoCAD. The one in the upper right is GTSG Version 1, which is running in Cadkey. The bottom left is Geodraft Version 1 running in Cadkey. And the one on the bottom right is Draft-Pak Version 4 Release 3 running in Cadkey.

in and click on it.

Q. Is Geodim a rule-based program?

A. Yes, it is.

Q. And what rules does it operate under?

A. The ANSI 14.5 geometric tolerancing standard.

Q. Looking at page eight, again we see the four programs. Can you explain how GTSG operates.

A. Sure. GTSG, the user is prompted down the bottom to select their options on the prompt text here and is presented the available selection options in the command menu prompt area or command menu area here. GTSG also has a sort of a working history line showing what's being created.

Q. How about Geodraft, how does Geodraft operate?

A. Geodraft, the user's prompted to down at the bottom here and given the available options for that prompt up here in the command menu area.

Q. And how does Draft-Pak operate?

A. The same way. The prompt text is down here, choose the primary datum modifier, and the options are up here.

Q. And is the GTSG program a rule-based program?

A. Yes, it is.

Q. And what rules does it operate under?

A. The ANSI GD&T 14.5 standard.

Q. And is Geodraft a rule-based program?

A. Yes, it is.

8-35

Q. And what rules does it operate under?

A. ANSI GD&T, ANSI 14.5.

Q. And is Draft-Pak Release 3 rule-based?

A. Yes, it is.

Q. And what rules does it operate under?

A. The same, ANSI GD&T, the answer 14.5 standard.

MR. KANN: May I approach the witness, Your Honor?

THE COURT: Yes.

Q. I place before you Exhibit 8, which is in evidence.

MR. KANN: Your Honor, may I publish Exhibit 8?

THE COURT: Yes.

Q. Can you tell us what is shown in Exhibit 8.

A. It's the same four programs Geodim, GTSG, Geodraft and Draft-Pak showing the screen shots in order of appearance.

Q. How is that different from what was in Exhibit 9?

A. I believe Exhibit 9 showed the screens in item list order, which has basically rearranged some of the steps, because – or rearranged some of the steps to show that the like steps in each program matched up.

Q. And am I correct that with respect to Exhibit 8, it is in the exact order in which the user uses these four programs?

A. Yes, that's correct.

Q. And is it – are we seeing in Exhibit 8 a collection

programs and both created using the ANSI standard, there are standard terminologies such as MMC, and so forth, datums, all the symbols, et cetera, that are required if you're going to build a – a rule-based GD&T program. So that's one reason.

The other would be Cadkey. Cadkey limits you to using the prompt line down at the bottom in this version, the menu command area in the upper left, and the history line across the top. So those are the restrictions on the -- on the program – for creating the GD&T program that's rule based in Cadkey.

MR. KANN: May I approach the witness, your Honor?

THE COURT: Yes.

Q. I place before you, sir, Exhibit 61, which is admitted in evidence and ask you if you can identify the document.

A. Yes. That's a document that's highlighting some – or

the differences in the prompt and menu areas for Geodim and Draft-Pak.

MR. KANN: May I place page 1 up on the screen, your Honor, of Exhibit 61?

THE COURT: Yes.

Q. Can you briefly describe, sir, in the left-hand column what is depicted?

A. The left-hand column depicts the screens in the order they appear in the program, with Geodraft Version 1 for the

8-122

Q. What is computer source code?

A. Computer source code is what the programmer who's writing the program keys in to the computer and then compiles it into a program that can then be run on Cadkey, for example.

Q. When writing your source code for Draft-Pak Release 3, did you have access to a single line of Geodraft source code?

A. Absolutely not.

Q. Is it possible for an unauthorized person to see the source code of Geodraft?

A. I don't believe so, unless you had a decompiler or something like that.

Q. Did you ever – strike that. Do you understand the

term encryption?

A. Yes, I do.

Q. And how does that relate to the software that we're discussing today?

A. Well, encryption would be a way to – you take your -- in Cadkey, anyway, you can take your CADL program which you can read, and that's the program that executes the instructions to put the prompts and the menus on the screen.

And you can run a compiler on that and it turns it from readable stuff into sort of ones and zeros, and when you type it out, it's all strange characters and smiley faces, and so

8-123

forth, and you can't read. So encryption goes one step further and – and makes that only viewable with a password that only the programmer knows.

Q. Did you ever have access to the password for the Geodraft program source code?

A. No.

Q. Did Bay State copy a single line from the Geodraft source code?

A. No.

Q. Were you in court when Mr. Ford was testifying about prompt text of Geodraft in Draft-Pak's source code?

A. Yes, I was.

Q. And what did you understand with respect to that?

MR. MEEKER: Objection.

THE COURT: Sustained.

Q. Did you see the Geodraft source code when it was placed up on the screen in the court during Mr. Ford's testimony?

A. Yes.

Q. Had you ever seen Geodraft's source code before then?

A. Just in the document production in the past year or so for this case, but not before that.

MR. KANN: May I approach the witness, your Honor?

THE COURT: Yes.

Q. I place before you 1348A and 1348B which is in

9-007
the Advanced Drafting Module, and that included geometric tolerancing, welding symbols, surface finish symbols, datum targets, a whole bunch of modules, fluid power symbols, electrical symbols, a lot of different things, so we licensed that module of Draft-Pak to Cadkey.
MR. KANN: Your Honor, may I approach the witness?

THE COURT: Yes.

Q. Sir, I place before you Exhibits 218 and 430. Are these the licenses to Cadkey to which you just referred?

A. Yes, they are.

MR. KANN: We move 218 and 430, Your Honor.

THE COURT: The difference, please? What's the difference in the two?

MR. KANN: 218, sir, is dated July 19, 1995, and 430 has a date of July 7, 1995, but attached to it is an agreement dated April 6, 1994.

THE COURT: They are licenses to whom?

MR. KANN: To Cadkey from Bay State. Bay State's license to Cadkey of the ADM Modules – AD Modules.

THE COURT: 218 and 430.

(Exhibit No. 218 marked and received into evidence.)

(Exhibit No. 430 marked and received into evidence.)

Q. Subsequent to selling the dialogue box version of Draft-Pak, did Bay State sell a Windows version?

A. Yes, we did. We came out with a Windows version of

Draft-Pak.
MR. KANN: May I approach the witness, Your Honor?

THE COURT: Yes.

Q. I place before you Exhibit 20 which is in evidence. Can you identify that for us, please?

A. Yes. These are screen captures of the geometric tolerancing portion of our Draft-Pak Windows module.

MR. KANN: May I publish that, Your Honor?

THE COURT: Is it in evidence?

MR. KANN: Yes.

THE COURT: Yes, it may be published.

Q. Can you identify for us what's on the screen, sir?

A. Yes. That's the true position symbol. And that's the Draft-Pak Windows version.

Q. And how would a user create a true position feature control frame using your windows version of Draft-Pak?

A. Well, similar to the dialogue box version, you would pick the symbol you wanted, such as true position, and then down here in the data entry area, you can enter your primary secondary tertiary datums.

Underneath are the modifiers, they're all set to none right now, but if you clicked on this box and pulled down, you'd see them. Clicking on this diameter symbol 24 would tell you whether you had a cylindrical tolerance zone 25 or not.

MR. KANN: May I place Exhibit 281 which is in
9-0063
Q. Is there a position sub-submenu in create?
A. No, there's not.

Q. Can you briefly describe, sir, what is a shoot-out as that term is used in your industry?

A. A shoot-out is generally done at trade shows where multiple products are compared together, they're usually sponsored by magazines or by industry groups where the products are demo'd and it's kind of a contest where it's one – you know, several products race to the finish to design a part or something like that.

Q. Is all of the functionality of the competitors' products displayed at these trade shows for all to see?

A. Yes.

Q. When Bay State purchased Cadkey's product line, how many dealers did Cadkey have?

A. Somewhere over 300.

Q. And did you enter into new agreements with any of these 300 Cadkey dealers?

A. Yes, we did.

Q. And how did you select them?

A. Well, what we did was we canceled all the previous agreements and we matched up the best dealers, we picked the best dealers, the dealers that were selling the most product. Because we were a much smaller company, Bay State, buying a much bigger company, Cadkey, we couldn't afford to manage 300

dealers, so we canceled them all and then we signed up the best ones.

Q. And before this lawsuit started, do you recall receiving a letter from Mr. Strauss stating that Bay State had engaged in infringement of Mr. Bowers' rights?

A. Yes.

Q. And did you consult with an attorney with respect to those allegations?

A. Yes, I did.

Q. Did you ask him to investigate?

A. Yes, I did.

Q. And did he provide you legal advice?

A. Yes, he did.

Q. And who was that?

A. That was Ben Sanders.

Q. Did you rely on that advice?

A. Yes, I did.

Q. Were you aware when Mr. Bowers filed for reexamination of his patent claims in 1993?

A. Yes, I was.

Q. And did that refiling have any bearing on your decision to continue to sell the products which are accused in this case?

A. Yes, it did.

Q. And what was that?

9-0075
A. Which one?

Q. Well, how many did you get from him in 1990?

A. In 1990, I don't recall.

Q. You don't recall? Did your at orney send me a disk

in this case that he said that you got from my client in 1990?

A. I remember receiving a demo disk from Mr. Bowers -- I think it was done, actually, through a mailing through Cadkey. Solution Partners could -- or our third-party developers could do a mailing to all the Cadkey dealers and –

Q. This is in 1990?

A. In 1990.

Q. This is the one that you ran before you were doing your Release 3 or Version 4 Release 3 of Draft-Pak, the automated GD&T?

A. We received a Geodraft demo in the mail, yes.

Q. And is that the one that you looked at before doing your Version 3 Release 4 of your Draft-Pak product?

A. I don't know if it was before or during or after exactly.

Q. Well, Mr. Bean, you were sitting in the courtroom

when we read your testimony that you said it was before in your deposition; is that correct?

A. I don't -- I don't recall.

11-184

Reverse engineering is the process by which a completed product is systematically broken down into its component parts to discover the properties of the product with the object of developing the expertise to reproduce the product. Reverse engineeri g of copyrighted software is allowed under copyright law but that does not allow someone to create their own version of software if that new software copies protectable expression of the copyrighted program. You may find that reverse engineering violates the license agreement only if Baystate's product that resulted from reverse engineering infringes Bowers' copyright because it copies protectable expression.

Now we'll go back to the form. You'll notice at the bottom of Page 3 just after Question No. 5 there are instructions. It says "If you answer any part of Question 5 'yes,' proceed to Question 6." That means that if any one of those four answers immediately above is checked "yes," you'll go on to Question 6. If you answer all parts 22 of Question 5 "no," you'll proceed directly to Question 9. So proceeding to the next question, willful copyrighted infringement, Question No. 6,

8-8

MR. KANN: May I approach the witness, Your Honor?

THE COURT: Yes.

Q. I place before you Exhibit 327, can you identify that?

A. Yes. That's a certificate of copyright for Draft-Pak Version 3.5 Release 2.

MR. KANN: May we publish that, Your Honor?

THE COURT: Yes. Actually, you didn't offer it, Mr. Kann. Are you offering it?

MR. KANN: I'm sorry, Your Honor, we offer Exhibit 327.

THE COURT: It's admitted.

(Exhibit No. 327 marked and received into evidence.)

Q. Okay. Directing your attention back to Exhibit 16, which is Draft-Pak Release 2.

MR. KANN: I'd like to put a screen up -- a screen capture on the screen, Your Honor.

MR. MEEKER: Page reference, please?

THE COURT: Yes, what page?

Q. I place page one up on the screen. Can you point out, sir, the prompt text?

A. The prompt text is right here, it says select, ANSI, tolerancing option.

Q. And what does the prompt text tell the user?

A. The prompt text tells the user what to select next.

8-9

Q. And what is being prompted here?

A. For the user to select the tolerance option, and those options are about -- are supplied here in the command column area.

Q. Is one of the options of GD&T the GD&T module of Draft-Pak?

A. Yes, the first option is the geometric tolerancing option.

Q. And if the user selected that option, then what would happen?

A. If the user selects that option, they go into the module, the component of the software that can create GD&T symbols.

MR. KANN: I'd like to put the next screen up on the screen, Your Honor.

THE COURT: Yes.

Q. Is this the screen that the user will see?

A. Yes, it is.

Q. And what's the user being prompted to do now?

A. The user is being prompted to specify the leader type for this geometric tolerancing symbol, and he's given the option of horizontal, vertical, general, string, none.

Q. And assuming that horizontal is selected, what happens next?

A. The feature control frame is started with just a

single vertical line to -- at the indication you can see this X up here, that's where a person using the software would click to say that's where I want my symbol to start.

Q. And what happens next?

A. Well, the user is supplied with these options here that they can choose from. It's sort of a pick-and-choose way of creating geometric tolerancing symbols. They can put a datum in, they can put a symbol in or a geometric tolerancing symbol in, they can put target in, they can put text in, they could put modifiers in, vertical line. Q. All right. So after the user selects one of the menu picks – by the way, how does the user select the menu pick?

A. He moves the mouse or cursor over to the option in the upper left-hand side and clicks on that button.

Q. Okay. And what do we see next?

A. The symbol option was selected from the previous menu, so now the various geometric tolerancing symbols are presented to the user to be able to pick from, so they can pick one of these and it will be created onto the screen.

Q. What has the user selected here on the next page

here, which is page five?

A. Well, he has selected the ANSI symbol for straightness, and that's I believe the straightness symbol. And now he's selected the modifier option, so under the modifier options, these are the modifiers the user had to

Exhibit 1200

CADJET Designer's TOOLKit!

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